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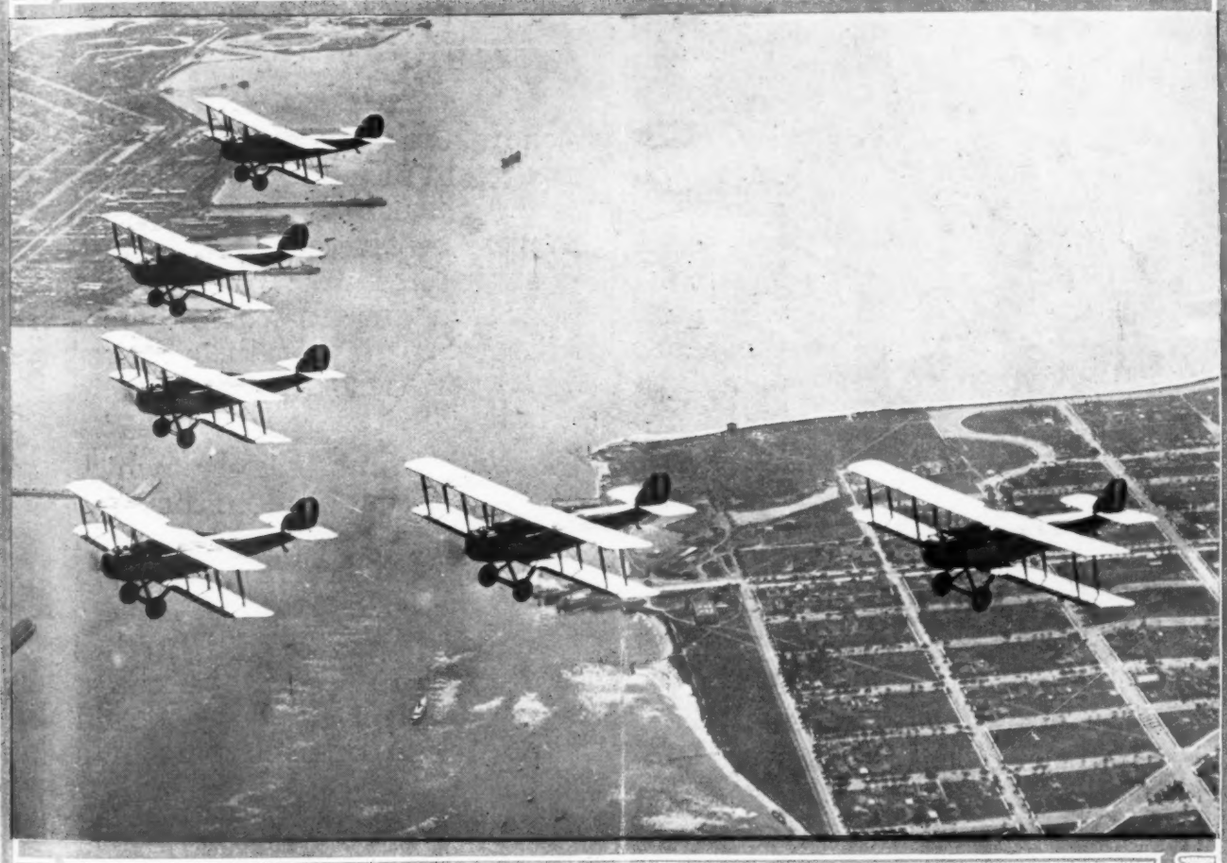

A Naval Formation in Flight.

VOLUME XX

NUMBER 5

SPECIAL FEATURES

THE SPAIN-ARGENTINA FLIGHT

MODERN AIRPORT HANGARS

HUFF DALAND ACTIVITIES

GARDNER PUBLISHING CO., Inc.
HIGHLAND, N. Y.
225 FOURTH AVENUE, NEW YORK

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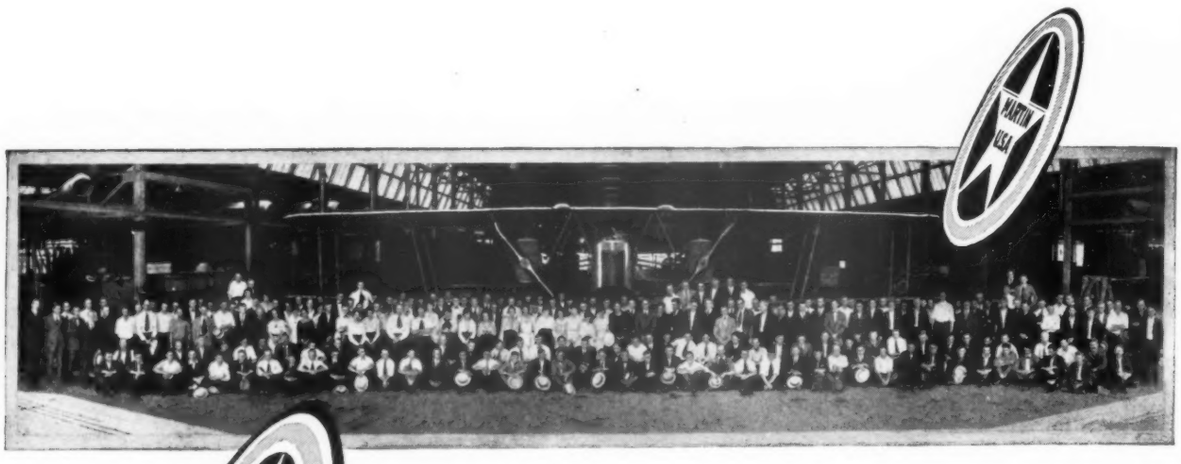

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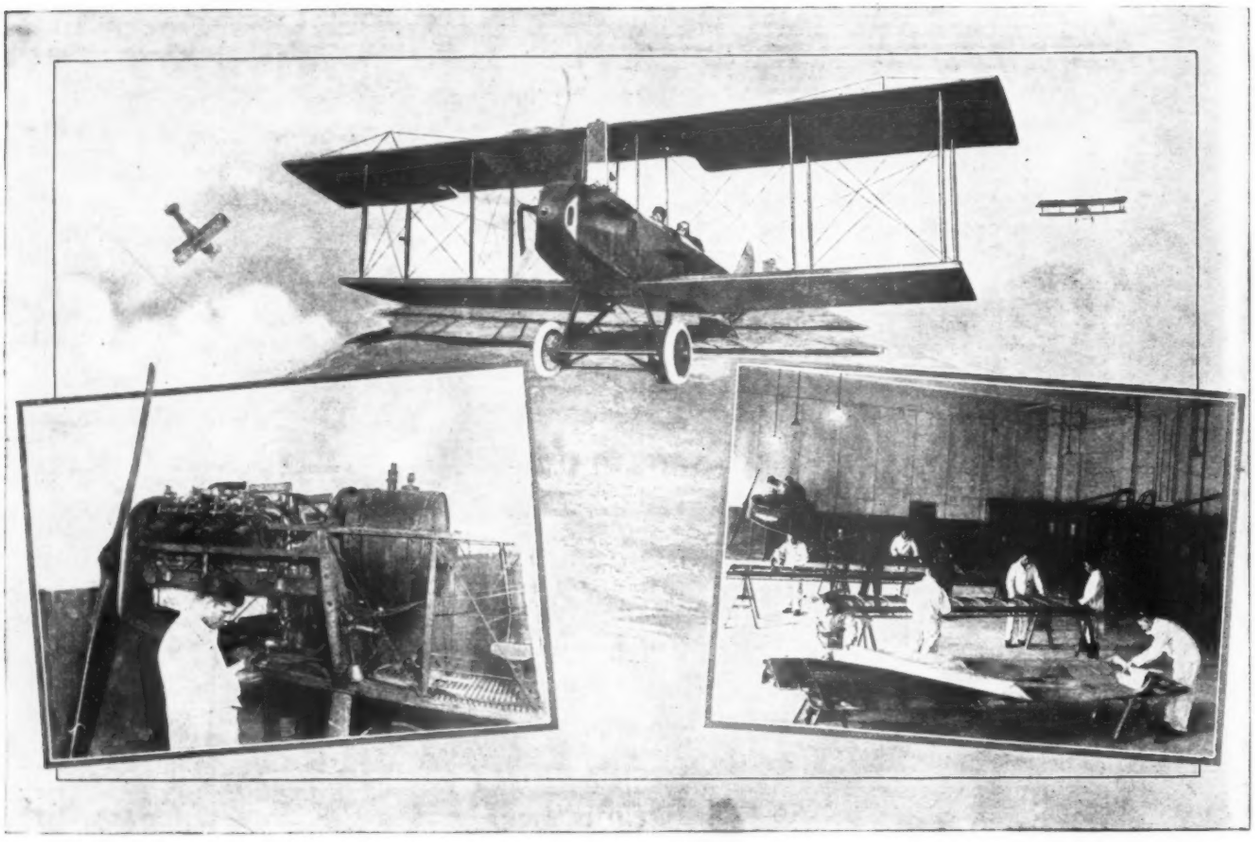

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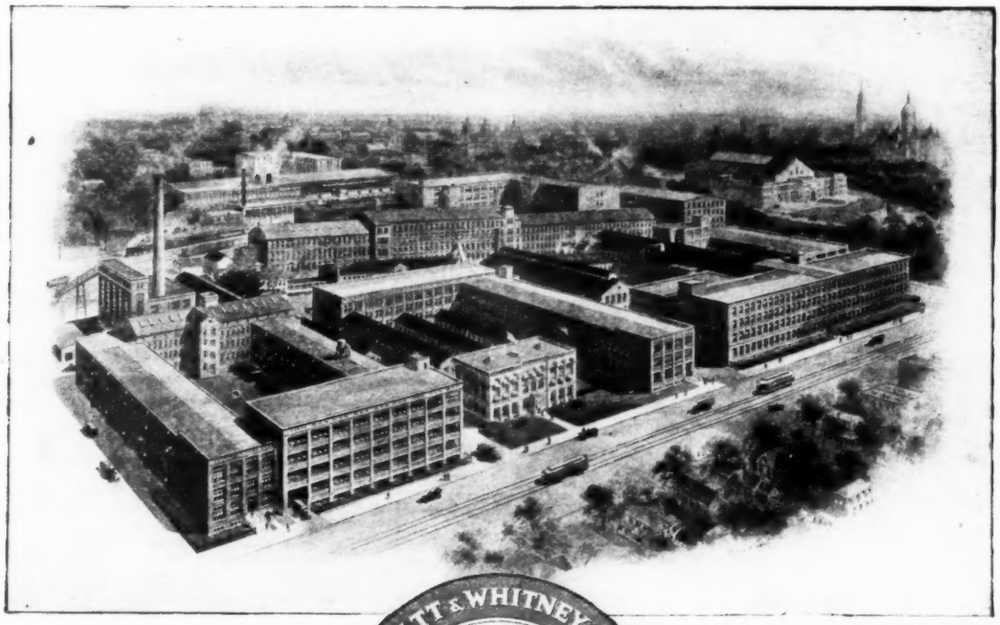

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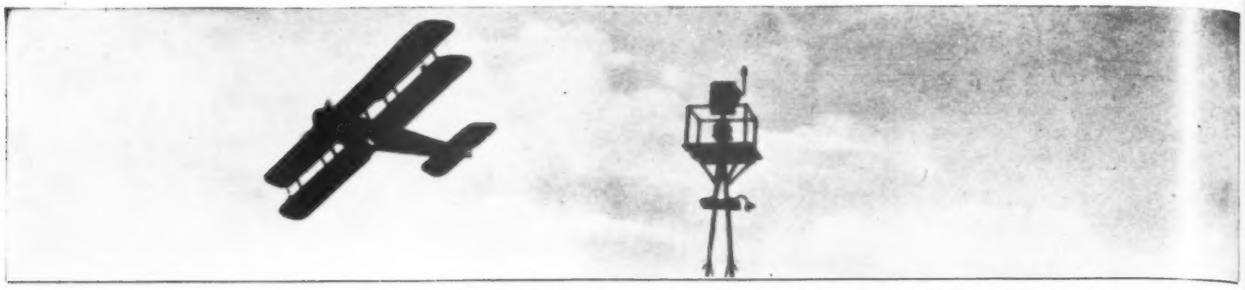

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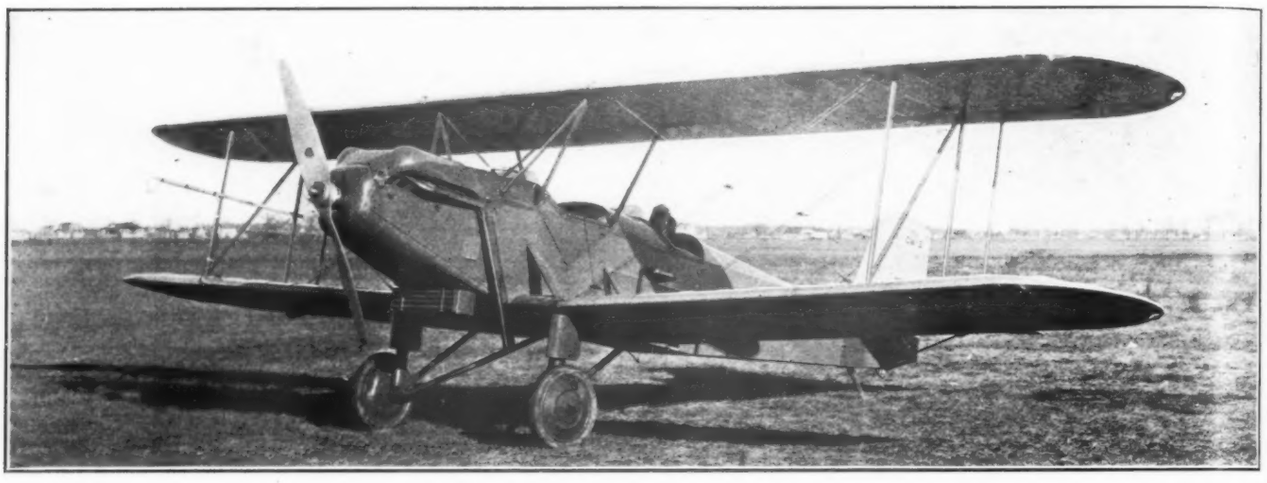

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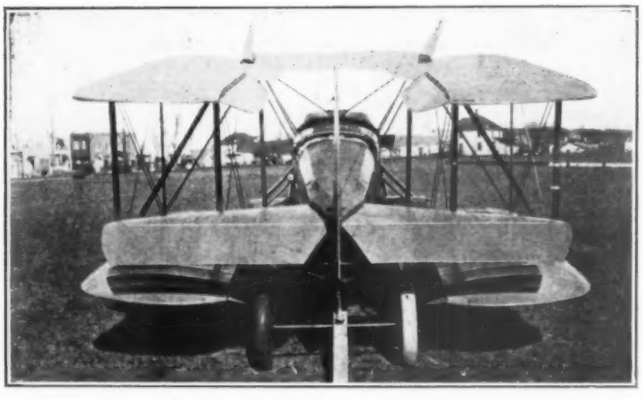

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FEBRUARY 1, 1926

AVIATION

VOL. XX. NO. 5

Published every Monday

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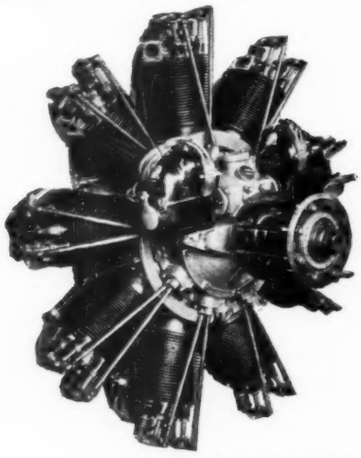

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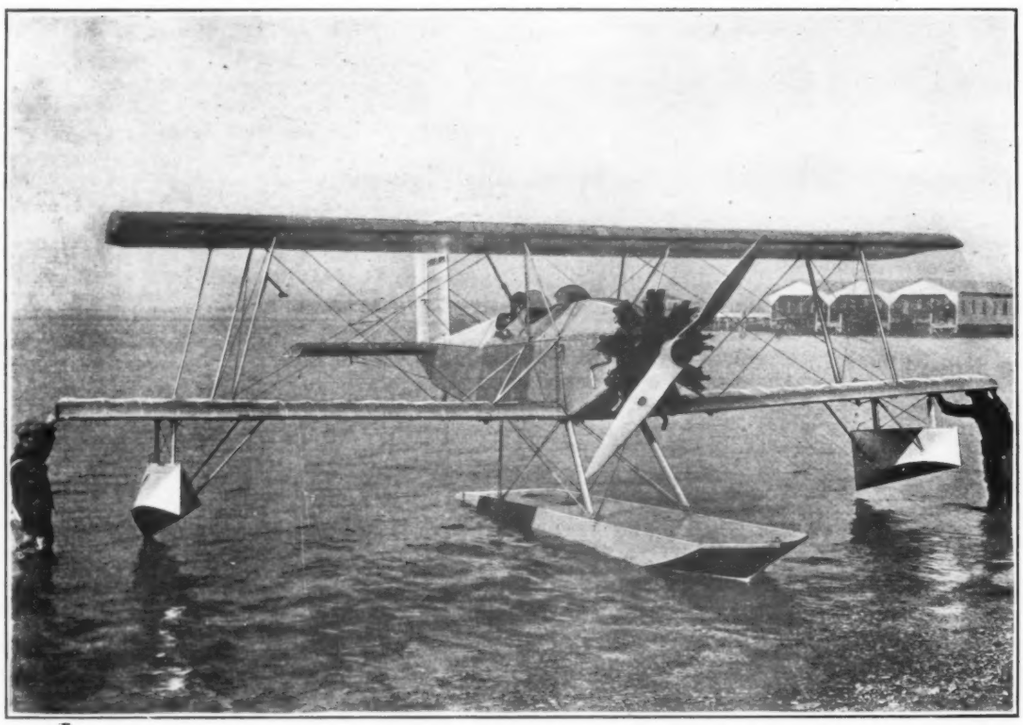

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VOL. XX FEBRUARY 1, 1926 No. 5

The Spain-Argentina Flight

THE SPAIN-ARGENTINA flight, which was commenced under the leadership of Comdr. Ramon Franco on Jan. 22, is one of the most notable long distance flight attempts yet undertaken. In itself, the flight is significant, since, with the exception of the hop from Noronha to Pernambuco, which is but 279 miles in length, all of the six hops are of more than 800 miles. Furthermore, the complete route is over water, from the start, off the coast of Spain, to Pernambuco, after which the coast line is followed. In spite of this, however, the fliers are undertaking the flight almost without any outside cooperation since, with the exception of one cruiser off the coast of Africa and a destroyer which will be stationed at Noronha, no assistance in the event of a forced landing at sea has been provided for. The plane, however, is of a type which is especially designed for weathering ocean seas and may be expected to withstand the tests well.

The route being followed by the Spanish airmen is almost identical with that followed by the Portuguese pilots, Captains Sacadura Cabral and Gago Coutinho, who left Lisbon for Pernambuco during April, 1922, in a Fairey seaplane which, unfortunately, was severely damaged while being beached at St. Paul's Rock, one of the stopping points on the flight between Cape Verde Island and Fernando de Noronha. This flight was later continued with a new plane shipped to St. Paul's Rock.

The Spain to Argentina flight will, if successful, be the eighth crossing of the Atlantic Ocean by air, flights connecting the Americas with Europe having been made three times by airship and four times by airplane and seaplane. The British airship R-34 crossed the North Atlantic Ocean in both directions in 1919 while the Los Angeles flew, in 1924, from Friedrichshafen to Lakehurst, also crossing the North Atlantic.

In the heavier-than-air field, the United States Navy seaplane NC-4 flew from New York to Lisbon via the Azores in 1919 and later in the same year the British Vickers plane spanned the ocean from Newfoundland to Ireland by air. The Portuguese flight across the South Atlantic and the Atlantic crossing of the world fliers constitute the third and fourth Atlantic flights. With the anticipated success of the present undertaking, yet another step will have been achieved in the direction of the permanent establishment of trans-Atlantic air transportation.

Aerial Battleships

THE FRENCH have, for five or six years, been conducting continuous experiments on four-engine airplanes. These were, at first, little more successful than our own six-engine Barling bomber. However, the experimental work has continued and, this year, has brought out several four-engine planes of very great interest. The early work done by the Bleriot firm, as far back as 1921, was with the idea of developing a reliable passenger and transport plane. The work on multi-engine planes in general has been continued in France and has resulted in the production of the Farman Super Goliath, described in the Jan. 4 issue of AVIATION. This plane is a bomber with almost double the performance of any American bomber.

It is interesting to note, in this case, that comparatively little emphasis has been given to defense in the design of this plane. In the Latércoère four-engine plane, which will be described in a forthcoming issue, the development has been further continued and a plane has been built which will actually be very difficult to shoot down with either machine gun fire or shell fragments. This has been accomplished by providing four engines; by having the pilots' cockpit armored and by having the structure of the airplane built in such a manner as to render the destruction of any member, such as a longeron, incapable of causing the collapse of the entire plane. The plane has a very powerful machine gun armament with a carefully worked out field of fire, and the advocates of this type claim that they could fight off pursuit planes just as battleships can fight off torpedo boats.

The large single-engine American bombers, which are now being developed, are excellent examples of their type but the size of the bomb which they can carry is only one-half that of the Farman bomber and they have nothing like the defensive power against pursuit planes, for they carry fewer machine guns, a smaller crew and have several blind areas from the gunmen's standpoint. These offer vulnerable points from which the planes could be attacked without possibility of defense. To convoy their super bombers, the French are also developing a type of two-engine pursuit airplane which, though neither as fast nor as maneuverable as an American pursuit plane, carries such a powerful offensive armament that, with the superior gun fire, the type would be extremely dangerous to a pursuit group and would probably be able to break up a pursuit formation before the bombers could be reached. This work is still in a very experimental state, but a number of firms are actually building these types and there is foreshadowed a development of the type of superplane which will shift the center of military aeronautical development from auxiliary work with the Army and Navy, to independent work, having tremendous offensive powers. American aircraft designers are keenly alive to the possibilities of this line of development and we have plans for such development, but only on paper. Congress, as well as military and naval authorities, will have to be educated before those in charge of governmental aeronautics will be allowed to expend the time and money necessary for such developments.

The Spain to Argentina Flight

LEAVING THE little port of Palos, Spain, at 8:00 a.m. on the morning of Jan. 22, Comdr. Ramon Franco, the Spanish aviator, together with his three companions, Capt. Ruiz de Alda, Ensign Duran and Mechanician Raga, commenced their projected flight across the South Atlantic ocean to Buenos Aires, escorted by 50 Spanish Army airplanes. The plane carried 400 lb. of messages from Spanish notables to the Presidents of South American republics.

The Route of the Flight

The favorable weather encouraged the fliers to leave earlier than was their original intention, it having been planned to commence the flight on Jan. 26. The route of the flight is as follows:

First—From Palos to Las Palmas, Canary Islands, 817 miles.

Second—From Las Palmas to Porto Praya, Cape Verde Islands, 1056 miles.

Third—From Porto Praya to Fernando do Noronha, off the Brazilian coast, 1432 miles.

Fourth—From Noronha to Pernambuco, 279 miles.

Fifth—From Pernambuco to Rio Janeiro, 1264 miles.

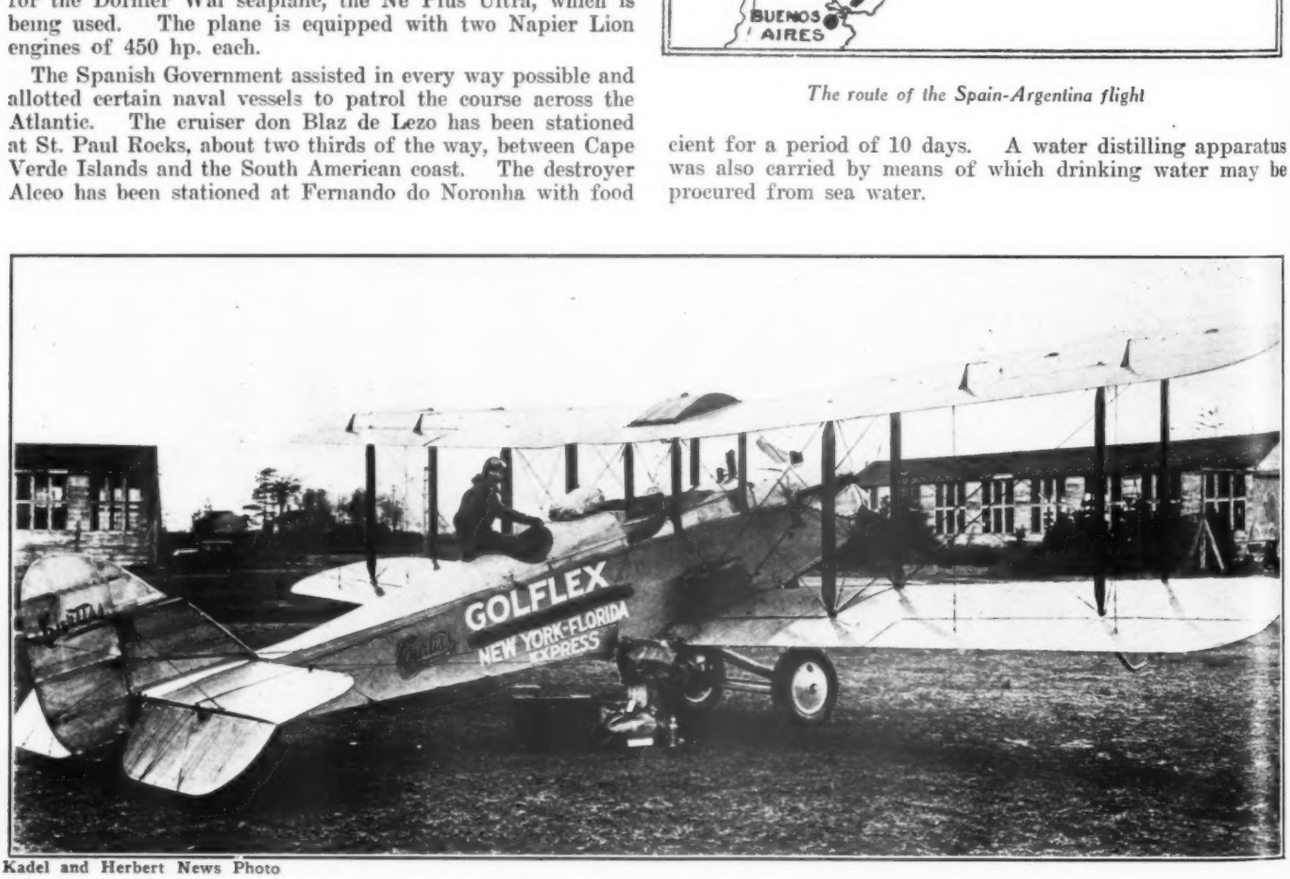
Sixth—From Rio Janeiro to Buenos Aires, 1382 miles.

The first leg of the flight was carried out with perfect success, Las Palmas being reached at 3:00 p.m. on Jan 22, the day of the start. This leg of the flight thus took 8 hr. to complete, since it must be remembered, Canary Islands time is one hour behind Spain time. This represents a speed of approximately 102 m.p.h., which is a very fair performance for the Dornier Wal seaplane, the Ne Plus Ultra, which is being used. The plane is equipped with two Napier Lion engines of 450 hp. each.

The Spanish Government assisted in every way possible and allotted certain naval vessels to patrol the course across the Atlantic. The cruiser don Blaz de Lezo has been stationed at St. Paul Rocks, about two thirds of the way, between Cape Verde Islands and the South American coast. The destroyer Alceo has been stationed at Fernando do Noronha with food and gasoline supplies to assist the seaplane should a landing upon the water be carried out.

The Ne Plus Ultra carried food on board for the crew sufficient for a period of 10 days. A water distilling apparatus was also carried by means of which drinking water may be procured from sea water.

The route of the Spain-Argentina flight



Kadel and Herbert News Photo

The recent embargo placed upon freight shipments to Florida has resulted in many cases of airplanes being used by manufacturers in delivering their goods to dealers in the southern resort state. The photo shows the loading of a shipment of womens' wearing apparel onto a Curtiss DH plane

The Wright Apache Shipboard Fighter

A High Speed Pursuit Type with Air-Cooled Engine.

THE WRIGHT Apache shipboard plane is the latest airplane development of the Wright Aeronautical Corporation. Small, compact, and extremely maneuverable, it is especially suited to shipboard service with the fleet. Equipped with a single large float and two wingtip floats, it can be launched from the standard Navy catapult, while, fitted with landing wheels, it can take off from and land upon the decks of aircraft carriers.

The plane, which is of the single seat fighter class, embodies normal constructional features and represents sound engineering practice in design and in the choice of materials. Extreme care has been given to detail design with the result that the airplane is structurally very light. The fuselage structure and fittings, the chassis struts, the fittings and internal struts of the wings, the tail skid and the controls are constructed of chrome-molybdenum steel, while the interplane struts are of streamline steel tubing. The tail and control surfaces are constructed with steel tubing spars and duralumin ribs. The wings, however, are constructed of wood, two I section wood spars being employed with plywood ribs, the whole structure being braced with round swaged wire and steel tubing.

The plane is at present equipped with a Wright Whirlwind 200 hp. engine and has been tested with this installation. It is intended, however, to equip the standard plane with the new Wright Simoon (R-1200) air-cooled engine which develops 325-350 hp. The high performance obtained from the Apache in a long series of preliminary tests with the Whirlwind engine fitted, indicates a very high performance when finally the Simoon engine is installed.

Excellent Performance

During the test flights as a land plane with the Whirlwind engine, the high speed was 141 m.p.h., with a climb in ten minutes to 10,300 ft. and service ceiling of 18,500 ft. These figures were obtained while carrying a useful load of 742 lb., including the full weight of the military equipment. The span is only 27 ft. 4 in. and the wings have a decided stagger, giving excellent vision for deck-landing. The stalling speed is only 50 m.p.h., which is below the catapult requirement.

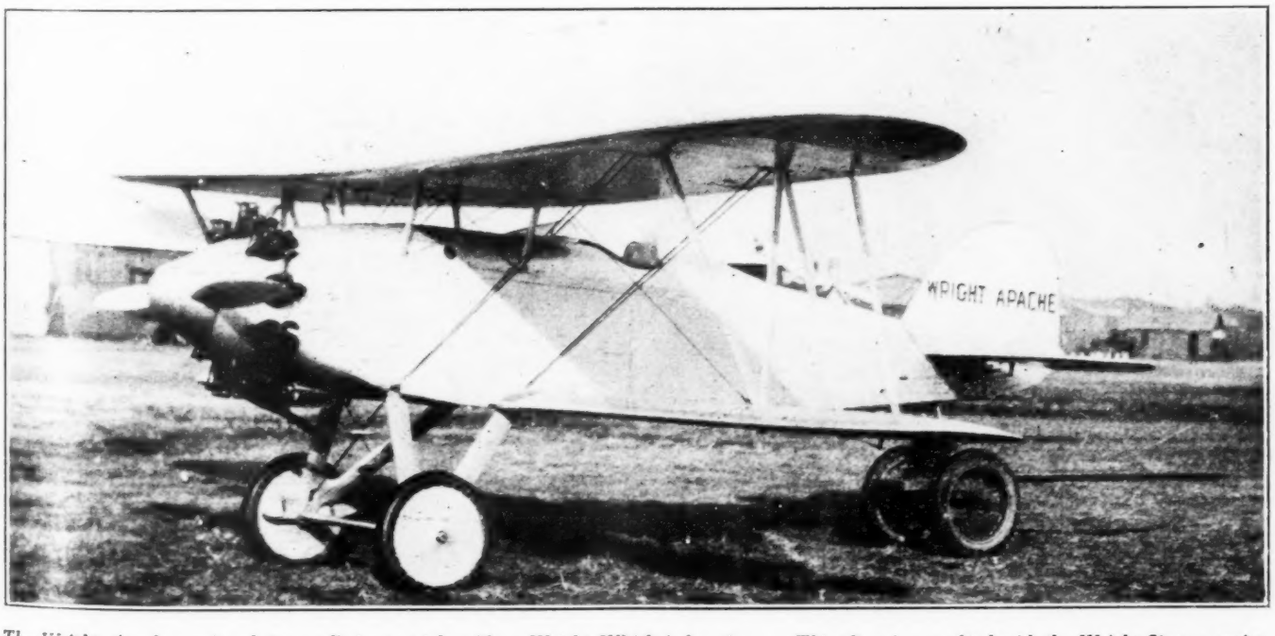
The first flight of the plane was made on Nov. 6, 1925 by F. H. Beeker. On Nov. 12, 1925, Lieut. C. C. Champion, U.S.N., of the Bureau of Aeronautics, took the plane up for a test flight. Later on the same day, he took it to Boston.

On the return from Boston, a straight course from New London to Mitchel Field was flown, crossing Long Island Sound diagonally. A few days later Lieutenant Champion flew the plane to Washington by way of Philadelphia. At Washington it was flown by ten officers of the Navy, Marine, and Coast Guard, and, on Nov. 21, 1925, it was flown from Washington back to Mitchel Field by Becker, without a stop. Since Nov. 25, 1925, the Apache has been making frequent flights for performance tests with official recording instruments. It was during the last climbing test that Becker was carried out over the sea after reaching an altitude above 20,000 ft., and finally landed near Plymouth, Mass., with his face frozen but without damaging the plane. On this flight the strut thermometer registered 14 deg. below zero, and, on another flight the same day, the thermometer registered 24 deg. below zero, which facts say much for the Whirlwind engine which functioned perfectly throughout the flights.

When the test flights are completed the machine will be equipped with the Simoon engine and all metal duralumin floats fitted, after which it will be put through another series of flight tests.

At the moment of going to press, AVIATION is informed of the carrying out of the first preliminary tests of the Apache with the Wright Simoon engine. In spite of the fact that the engine, which develops 350 hp. at maximum revolutions of 1900 r.p.m., was only opened up to 1750 r.p.m., a speed of 165 m.p.h. was obtained. According to the power curve of the Wright Simoon engine, 320 hp. is developed at 1750 r.p.m. Thus, it will be seen that an even greater speed may be expected from the Apache when the final trials are carried out and the engine is permitted to turn at its maximum revolutions. The stalling speed of the plane with the Simoon engine was less than 50 m.p.h. which indicates a speed range for the Apache of at least 3.3. The preliminary trails furthermore, included a climbing test as a result of which over 2,400 ft. was reached in the first minute. During these trials a full military load was carried.

The performance of this plane is extremely interesting since the Apache represents a new departure in American pursuit planes, in view of the air-cooled engine, which eliminates not only much inherent trouble arising from radiators but also their added resistance.



The Wright Apache equipped for preliminary trials with a Wright Whirlwind engine. This plane is now fitted with the Wright Simoon engine.

Huff Daland Activities

New Factory at Bristol, Pa. Gives Promise of Large Production

SIX YEARS ago, the Huff Daland company occupied a single small plant in Ogdensburg, N. Y. With the increase of the company's airplane activities, they took over their second and third plant in Ogdensburg. During the early part of 1925, it was decided that the three separate plants were not only inconvenient, but too small for the progressive campaign of aircraft manufacture, as outlined by the officials of that company. Plans were, therefore, made and the first steps were taken to move from Ogdensburg to the Harriman Merchant Ship Building plant at Bristol, Pa., in July, 1925. By the late fall, they had moved their equipment to this building.

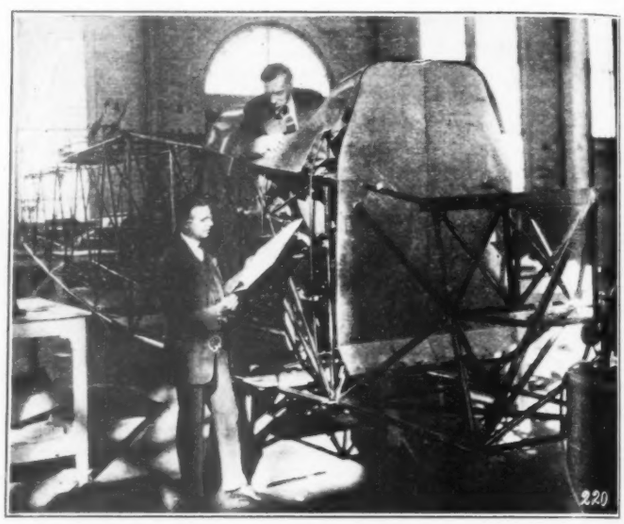
A Spacious Plant

The new plant structure, including office and drafting rooms, covers a space of 40,000 sq. ft. The plant building is an open clear manufacturing floor 1,000 ft. long. Progressive and up-to-date plans have been laid for modern aircraft manufacture. At the far end of the building, the machine shop for machinery and fuselage welding is located. The metal tubing and sheet metal is supplied from a storehouse wherein all inspected parts are stocked. Every inch of wood or metal that is used in the constructed planes by the company is thoroughly tested and checked up before being issued. The wing manufacturing area is located a little further up in the main building. Here the framework of airplane wings is set up, ready to cover with fabric. Continuous inspection is made by foremen at each step in the manufacturing process. In turn, the metal fuselage is moved for wiring, taping, bracing, varnishing, and numerous other details.

Manufacture Routine

Wing sections are moved to covering space, and from there to the special doping room in the main plant, provided for this purpose. This doping room has been especially designed with heated force-draft circulation so that the application of dope remains uniform for all surfaces. The ailerons, rudders, elevators and wing panels, when finished, are taken to racks where they are stored until actually fitted to the fuselage of the plane. In another location, the landing gear bracing, wheels, shock absorbers, and other details of the undercarriage are assembled. This also applies to seaplane landing gears, pontoons, wing tip floats and equipment, and, in due course, these parts are moved to the fuselage and attached.

At this point, the instrument board is fitted into the cockpit and the airplane which has now been covered with fabric,



Thomas H. Huff, president of Huff Daland & Co. discussing plans with C. T. Porter, chief engineer, who is seated in the skeleton fuselage of the Pegasus, LB-1

is ready for engine mounting. The engine, having been thoroughly tested, is installed in the plane. The wings and tail surfaces are assembled, flying and landing wires adjusted, control cables checked, and the rudder, elevator and aileron units tested. These final details attended to, a new aerial messenger is ready to take its first look at the wide world.

A general exterior view of the Huff Daland plant at Bristol, Pa., showing the office building

The Huff Daland plant at Bristol is situated on the Delaware River, just a few miles below the point where Washington made the famous crossing. At the lower end of the flying field is a large yellow building where it is rumored that the "Father of our Country" spent a peaceful night at rest. The flying field is situated between the plant and the river, thus making the location ideal for seaplane or land-plane operations.

Modern Equipment

Modern equipment is the by-word at the Huff Daland plant. An up-to-date wood turning mill, dry kiln, storage warehouses, pumping system, and, even, cafeteria, are located on the spacious grounds. A railroad spur runs directly alongside the plant, thus making available land shipments by rail and water shipments by the river to all parts of the world.

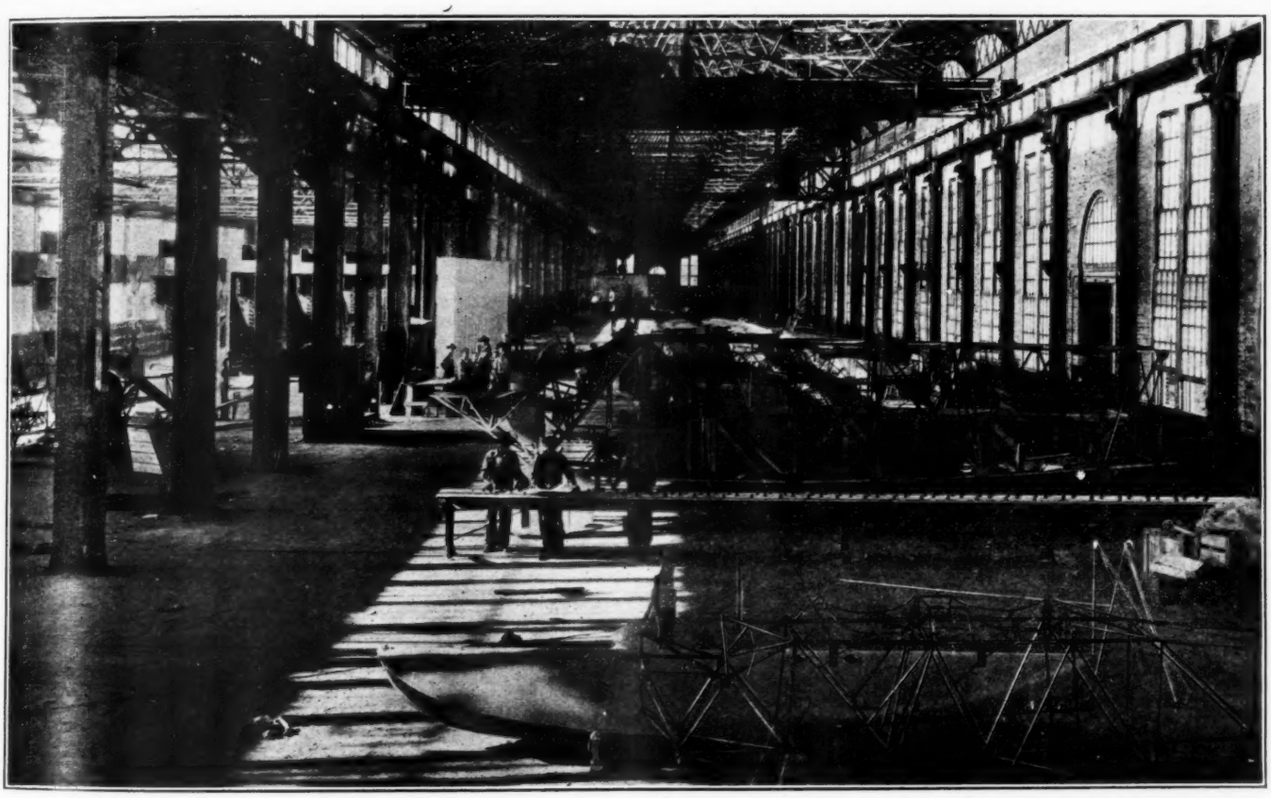
The officers of the company, all being individually and collectively responsible for the remarkable growth of this organization, are Thomas H. Huff, president; Elliot Daland, vice president; C. T. Porter, chief engineer; Sidney Newborg, treasurer; and Irwin E. Auerbach, auditor.

The types of planes which have been manufactured have been given individual names, as follows: The Petrel, three place commercial, National Guard and service training plane; the Pelican, five purpose training plane which can be equipped with either wheel undercarriage or pontoons; the Pegasus, or LB-1, military light bomber, powered with a Packard 800 hp. engine. This is the type which won the Detroit News Air Transport Trophy during the 1925 air races at Mitchel Field.

The latest product is known as the Cyclops. This is the HB-1, single-engine heavy bomber.

The Anti-Spin Feature

One of the features of aircraft design for which the company is justly proud is the non-spin quality embodied in all these planes. In conjunction with the anti-spin feature is the stall-proof quality. The planes, instead of stalling and falling into a side-slip, merely drop the nose and increase the speed in a gentle glide. The most significant fact of the safety feature design is brought out by the report that no Huff Daland plane has ever killed either pilot or passenger during five years of aircraft manufacture.



An interior view of the Huff Daland plant at Bristol, Pa.

Experts Join William E. Arthur & Co.

J. E. Whitbeck, who, for the past six years, has been Superintendent of the Eastern Division (New York to Chicago), Air Mail Service, will, after Feb. 1, be associated with William E. Arthur & Company, Inc., 103 Park Avenue, New York City, who are specializing in designing and building hangars and preparing flying fields, and installing lighting equipment for night flying operations.

Mr. Whitbeck has designed and supervised the construction of all the Air Mail hangars from New York to Iowa City. He also supervised the preparation of the flying fields at these places, and fifty emergency fields that are located between New York and Chicago and the lighting of the airway between these points. He probably has had a wider experience in this work than any other man in American aviation.

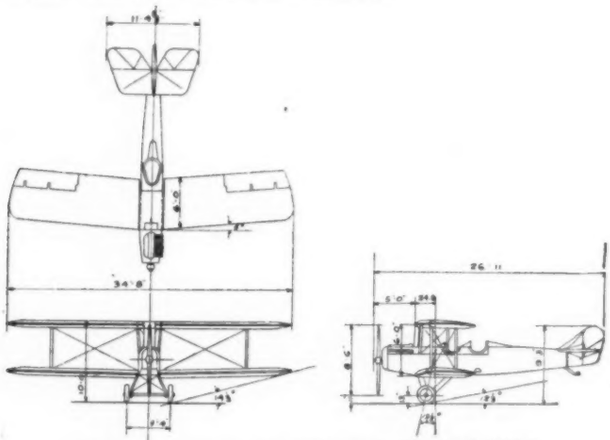
The remodeling of Army DHs for air mail use was developed under Mr. Whitbeck's supervision, as were the maintenance and operation methods which have given such excellent results in the Air Mail Service.

Notice has also been received to the effect that Archibald Black becomes identified with the firm of William E. Arthur & Company, Inc., as Associate Engineer, in which capacity he will act as one of the landing field design engineers. Under the arrangement effected with him, he will continue to operate as an independent engineer in the fields which are not covered by Wm. E. Arthur & Company, Inc.

The "Mercury" Standard 6W–3

A Five Place Passenger and Freight Plane Produced at Low Price

THE "MERCURY" Standard plane has been designed by the Aerial Service Corporation, Hammondsport, N. J., to fill the demand for a high performance plane at a low initial cost. This has been effected by making use of such parts of the well-known Standard training plane, as have proved in service to be quite satisfactory, namely, the fuselage, tail, tail skid, landing gear, and wing struts. As there are many wartime Standards still available, these parts can be procured at a value considerably below their cost. These parts are all thoroughly reconditioned, new ash longerons being supplied for fuselages and new covering used throughout. The tail skid post has been shortened by 6 inches which makes the tail skid arrangement practically non-breakable. To these reconditioned parts, a set of wings, approximately 380 sq. ft. in area, are provided, Clark "Y" section being the wing curve employed.



General layout of the "Mercury" Standard 6W-3

The original pressure feed fuel tank located in the Standard fuselage, has been replaced by an aluminum gravity gas tank which also forms the wing center section. This fuel arrangement is, in itself, a decided improvement since the original system presented a serious fire hazard. Furthermore the new arrangement permits the space in the fuselage previously occupied by the gas tank, to be used for carrying two additional passengers, thereby doubling the pay load. In special cases, where it is desired to have an additional amount of gasoline, such as for long-distance cross country flights, the old gasoline tank can be installed, and used in connection with the gravity gas tank. By this arrangement, 82 gallons of gasoline can be carried, which is equivalent to seven hours flight duration at 85 to 90 m.p.h. Our regular arrangement, however, utilizes only the gravity tank, which has a capacity of 47 gallons, giving a flight duration of 4 hours.

The Curtiss C6 engine is used, and fits very nicely on the regular Standard engine bearers, requiring only a new top cowl and radiator. The radiator is arranged so that it is very well streamlined, and is fitted with shutters completely shuttering same at all times of the year.

The new wing structure is in the form of a single bay braced with 3/16 in. cable. Five degrees sweepback is arranged for, thus permitting attachment of the wings on regular Standard wing hinge fittings. Balanced ailerons are fitted to the upper wing only, and are of ample proportions. The wing spars are of box beam construction with spruce cap strips and birch veneer side walls. The ribs are of trussed construction with veneer webs and spruce cap strips. The front control stick is so arranged that it is readily removable when the ship is desired to be used for passenger carrying or cargo.

The undercarriage is normal and fitted with either 26 x 4 or 30 x 5 wheels.

Specifications

The following are the main characteristics and performance details of the plane:

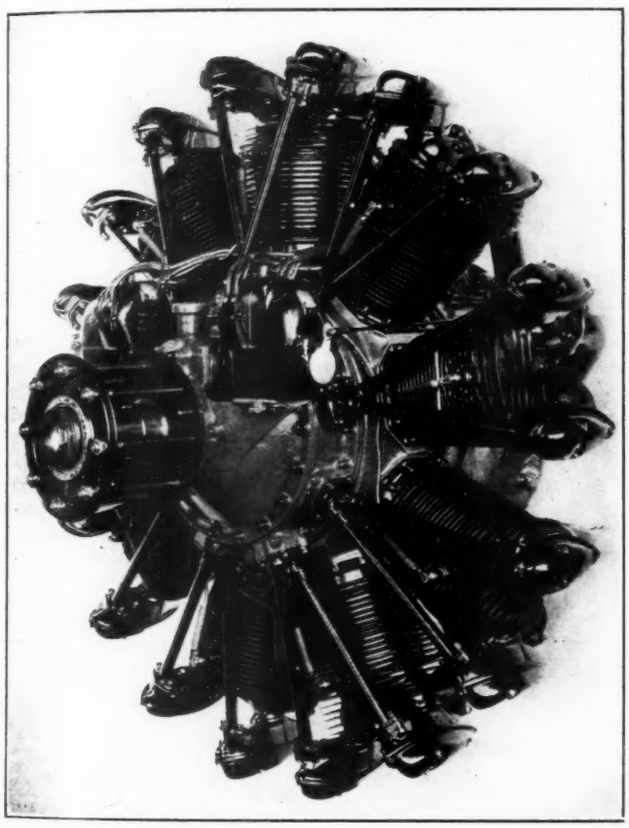
Areas and Dimensions	
Wing Section	Clark Y
Wing Area (incl. ailerons)	384 sq. ft.
Area Stabilizer	25.15 sq. ft.
Area Elevator	21.80 sq. ft.
Area Fin	3.81 sq. ft.
Area Rudder	11.85 sq. ft.
Area Ailerons (incl. balance)	16 sq. ft.
Span	34 ft. 8 in.
Length	26 ft. 11 in.
Height	10 ft. 11 in.
Chord (upper and lower wings)	6 ft.
Gap	6 ft.
Stagger	0
Dihedral (lower wing)	1½ deg.
Incidence (upper and lower wings)	2 deg.
Sweepback	5 deg.
Weight	
Weight empty (incl. water)	1575 lb.
Useful Load	1070 lb.
Pilot	170
Passengers—4—150 lb.	600
Fuel (44 gal.)	264
Oil (5 gal.)	36
Total Load	2645 lb.
Engine—Curtiss C6A	160 hp.
Performance	
High Speed (160 hp.)	105 m.p.h.
Stalling Speed	45.5 m.p.h.
Cruising Speed	90 m.p.h.
Absolute Ceiling	15,000 ft.
Range at Cruising Speed	360 mi.
Duration at Cruising Speed	h4 hr.

The "Mercury" Standard five place passenger plane, with Curtiss C6A engine which develops 160 hp.

The Wright Simoon Air–Cooled Engine

A New Radial Engine in the Wright Family.

ELSEWHERE in this issue of AVIATION will be found a description of the Wright Apache, the latest airplane product of the Wright Aeronautical Corp. While the preliminary trials and tests of this plane were carried out with the Wright Whirlwind engine, it was, as announced in the description of the plane, the intention from the beginning eventually to fit the plane with the new Wright Simoon (R-1200) engine which has just been completed by the company. This engine is the very latest development in radial air-cooled



engines produced by the Wright Aeronautical Corp. In many respects it is similar to the Whirlwind and other Wright radial engines, particularly so in the matter of structure. This fact is significant in view of the general all-around success of Wright radial engines, which should indicate similar successes for the Simoon.

To Reduce External Resistance

An endeavor has been made in the design of the engine to reduce, as far as practical, all external resistance to a minimum. In this respect the enclosed valve operating mechanism is noteworthy. This has proved very successful and gives the engine a remarkably clean appearance and has also reduced the number of visible moving parts to a minimum.

The nine cylinders of the Simoon have a bore and stroke of 5½ in., giving a displacement of 1176 cu. in. The dry weight of the engine is 640 lb. which, at the rating of 360 hp., represents 1.88 lb. per hp. The temporary power rating of the engine is 300 hp. at 1800 r.p.m., but the Simoon has developed 340 hp., a somewhat remarkable figure in view of the displacement of the engine. With this power rating the Simoon engine fills the gap between the Whirlwind and the Cyclone, both radial engines, rated at 200 hp. and 450 hp. respectively.

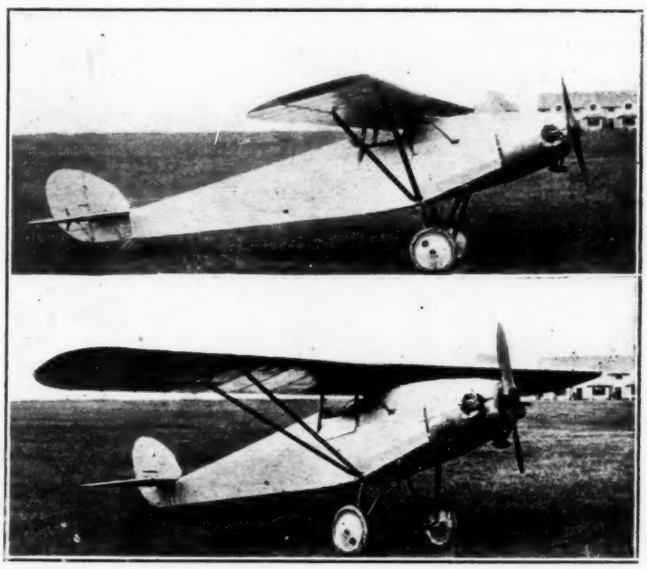
The engine has undergone a 50 hr. test at full throttle and fulfilled this without a forced stop and with only very minor adjustments. On being disassembled at the conclusion of 5, 15, 30 and 50 hours running, the internal condition of the engine was found to be perfect. Probably more significant than anything else in connection with the 50 hr. test run, is the fact that the calibration runs, which immediately followed, showed an increase in power, whereas it is frequently found that the runs after such a test show a not inconsiderable decrease in maximum power output of the engine in question.

It is also interesting to note that the Simoon engine, like all Wright air-cooled radial types, is equipped with dual Scintilla magnetos. Shortly, as noted elsewhere in this issue of AVIATION, the Simoon is to be installed in the Wright Apache airplane and flight tests will then be carried out.

Experimental Instrument Calibration

AN ALTITUDE CHAMBER FOR THE STUDY AND CALIBRATION OF AERONAUTICAL INSTRUMENTS. By H. J. E. Reid and Otto E. Kirchner. National Advisory Committee for Aeronautics Technical Note No. 229. Published by the National Advisory Committee for Aeronautics, City of Washington.

The design and construction of an altitude chamber, in which both pressure and temperature can be varied independently, was carried out by the National Advisory Committee for Aeronautics at the Langley Memorial Aeronautical Laboratory at Langley Field, for studying the effects of temperature and pressure on aeronautical research instruments. Temperatures ranging from 20 to —50 deg. Cent. (68 to —58 deg. Fahr.) are obtained by the expansion of carbon dioxide from standard containers. The chamber can be used for the calibration of research instruments under altitude conditions simulating those up to 45,000 ft. Results obtained with this chamber are said to have a direct application in the design and calibration of instruments used in free-flight research.



Two views of the C.L.A.3 parasol type monoplane, which was designed and built by the Cranwell Light Aeroplane Club of Cranwell, England. The machine is equipped with a Bristol Cherub engine. It has performed well in past British lightplane meets. Since the 1925 Lympne meet, the plane has been considerably cleaned up and the engine cowling modified. A Reed metal propeller has been fitted together with a spinner, with the result that the top speed is now 100 m.p.h. With this speed it is extremely probable that the C.L.A.3 is the fastest lightplane in the world.

Modern Hangars

Necessity for Careful Layout of Modern Airport Emphasized

By WILLIAM E. ARTHUR

THE MODERN type hangar is a very important factor in the economical and efficient operation of an airway or airport. There are a great many details to be considered in the handling and servicing of planes.

In the general arrangement of any landing field, provision should be made for hangars, shops, garages, field office, gasoline and oil storage, runways, field marking, water, telephone, electric power lines and, where necessary, field drainage. Plans should be prepared showing future as well as immediate installations, only in this way can the field be expected to provide a logical arrangement when fully developed. The additional cost of this forethought and consideration is negligible, while neglect might prove expensive later. The arrangement of buildings must be adopted to the local conditions and great consideration and study should be given to future expansion. The field, if properly laid out, can be elastic enough in arrangement as to be capable of expansion to the limit of its capacity without moving any of the original buildings or equipment.

Location of Buildings

Buildings should be liberally spaced in order to reduce the fire hazard. It requires so much space for runway purposes that there is nothing to be gained by crowding the buildings. If possible, all buildings should be on the side of the field nearest to a road, so that it will not be necessary for automobiles or persons to cross the field to reach any of the buildings.

The hangars should be arranged so that the airplanes may be conveniently taken in or out. Where conditions permit, buildings should face south. This protects them somewhat from the cold north winds and helps to make conditions more comfortable for the mechanics in winter. The hangar layout should be sufficiently elastic to permit erection of several types of buildings without destroying the general arrangement. Some effort should be made to anticipate the possible variation in future buildings. Thus, much trouble may be avoided and the space utilized to better advantage.

In the case of a commercial airline, the size and type of the planes to be operated and the possible future size of planes should be anticipated, if possible, before the size and type of hangars is decided upon. Thus an efficient hangar, without waste space, can be erected. No rule can be formulated for the relation between hangar, garage and shop floor space, etc., as this will vary with each project. In most civil fields, part of the hangars will be used for shop purposes. This, however, is not good practice and should be avoided whenever possible.

Sturdy Construction

The modern hangar should be substantially built to withstand heavy windstorms, etc. The strength of the hangar is of extreme importance as it is generally known that there has been considerable loss of planes and equipment in the past few years through the collapse of poorly designed buildings during heavy wind storms.

Proper ventilation and light should be subject to considerable study as the modern hangar must be used at night as well as by day. Heating is a separate problem in each case. The principal problem with heating is to provide a means of raising the temperature rapidly in the hangar after the doors have been opened in winter, so that very little time need be lost by mechanics working in this room. With the modern hangar, this has been gone into very thoroughly and is amply provided for.

Floors, when properly constructed, lend toward the efficient and economical handling of planes and equipment in the hangar. They should be constructed of concrete, properly finished and sloped with a proper pitch toward the doors. This permits the floor to be flushed with a hose and water, keeping same in a sanitary condition, also permitting the quick removal of planes in case of fire.

(Copyright) William E. Arthur and Co.

A very interesting photograph of Hadley Field, the New York terminal of the U. S. Air Mail Service. This photograph was taken by William E. Ar... the night extreme left. The boundary lights are clearly visible. The fact that these are flashing lights is the reason for the one appearing in the left hand pa... being, apare...

The opening and closing of the large doors on a hangar have been the cause of a great deal of trouble around a hangar, very often requiring the assistance of a motor truck or tractor and doing damage to the doors. With the latest type of hangar, this trouble has been eliminated by use of specially designed steel rolling doors operated easily, either by hand or motor, regardless of weather conditions.

With the modern type of hangar all these details have been carefully worked out and it is just as important to have an efficient and substantial hangar as it is for a pilot to have a substantially constructed plane.

The Canadian Vickers Varuna Flying Boat

Owing to a typographical error in which the figure "3" was confused with the figure "5", the upper wing span of the Canadian Vickers Varuna flying boat, which was described in the Jan. 18 issue of AVIATION, was incorrectly stated. The upper wing of this plane is 55 ft. 3 in. in span, being slightly greater than the lower wing span which is but 51 ft. 8½ in.

Air Mail Curtails Production

A strong sentiment was expressed, by the President's Aircraft Board, against government manufacture of aircraft in competition with the aircraft industry. Following this recommendation, the Air Mail immediately gave orders to curtail the manufacturing activities at its factory at Maywood. Forty employees have been dropped from the service and no more new airplanes will be built there.

While the Air Mail has been manufacturing its own airplanes for several years, the aircraft industry has never openly made any objection owing to the splendid results that were being accomplished and the fundamental soundness of the Maywood plan of bridging the gap until commercial aircraft would become available. The prompt action of the Post Office Department in curtailing manufacturing is only another evidence of the fine spirit that has always actuated the direction of this greatest of all American aircraft achievements.

Swiss Air Traffic Heavy

Traffic handled by Swiss air lines during the summer of 1925 was unusually heavy, as shown by figures issued by the Swiss Federal Air Office. Of 4,378 flights scheduled, 3,887 (90%) were effectively covered. A total of 2,687 trips were made without a delay of more than ½ hr. The total distance covered was 818,400 kms. (508,554 miles) and the flying time 6,850 hr., representing an average speed of 119 kms. p.h. (approximately 74 m.p.h.)

Traffic included 7,600 passengers, 18,000 kilograms of mail, and 75,000 kilograms of freight. The greatest number of passengers (1,769) were carried by the Zurich-Munich-Vienna line, the next most popular being the Zurich-Stuttgart-Mannheim line and the third, the Zurich-Basle-Paris line.

Frontal Area of the Radial Engine

COMPARISON OF PISTON SIDE-THRUST IN THE MODIFIED R-1, 400 HP. RADIAL ENGINE AND THE SINGLE CYLINDER TEST ENGINE. By R. M. Hazen. Air Service Information Circular No. 525. Published by the Chief of the Air Service, City of Washington.

To obtain data from which to build a radial engine of minimum frontal area, the Air Service Engineering Division conducted a series of tests on the modified R-1 400 hp. air-cooled radial engine. A test of the modified engine was terminated June 20, 1924, by the failure of the pistons, attributed to excessive intensity of side pressure. These pistons had previously undergone a satisfactory endurance test when used in this cylinder assembled on the single-cylinder test-engine. In the test-engine experiments a long connecting rod was used; in the modified radial engine the connecting rods were short. The present report is of a comparison between the piston sidethrust of the modified radial engine and that of the test assembly fitted with the shortest possible connecting rod. The purpose was to determine the value of single-cylinder tests for radial engine pistons. From the results given, the conclusion is drawn that the conditions of piston side-thrust of the modified radial engine cannot be duplicated in the single-cylinder test-engine.

On the night of Tuesday, Jan. 12, just as the mail plane was taking off for Cleveland. The flood light just does not appear in the picture, being on the wing, aparently, extinguished while another, that one just behind an automobile in the right hand half of the photograph, appears to be dimly lighted.

What Pilots Think About Air Legislation

More Pilots Express Their Views.

For Licensing Pilots

Regarding unlicensed pilots flying, I have seen many pilots, who have just learned to fly, start out carrying passengers when they were hardly able to fly alone. This kind of thing should be stopped because it causes many fatal crashes. Just what kind of test will be necessary to be given, remains to be seen, but I think something along the F.A.I. test would be sufficient.

During the last four years, I have flown practically all the commercial types of ships available, including the Waco, Swallow, and Travel Air, but most of my time has been in our old friends the Jenny and Canuck and all the variations of the Standard. At present I have a JN4 with new high lift wings and am building a new steel tube plane which is 90% complete. In some of the other bills there was indicated an intention of condemning the wartime Jennies. I do not think this should be done as they are gradually eliminating themselves. It won't be long before they are all gone.

I have made money through buying and selling ships and doing repair work, but passenger carrying and student training have also contributed to the total.

If there is any regulation at all I think it should be Federal.

L. CAVENDER,
Chicago, Ill.

Would Regulate Instruction

Relative to the licensing of pilots, it is my opinion that the mere licensing of a pilot does not make him a safe flier. The operation of aircraft requires experience, before a pilot can be considered safe. On the other hand, I can teach anyone to fly, but I cannot give him brains. There should be some curb put on schools that teach and give only eight to ten hours in the air. These pilots solicit the innocent and uninformed public to ride in their craft at any field they choose.

I might relate an incident by way of explanation. I was at the Cleveland Airport teaching a pupil to fly this summer, when a boy and his instructor flew in from Dayton, Ohio. The student and instructor had some sort of a discussion, the result being that the instructor was fired. The lad, who was the owner of the plane, proceeded to take it up and it is now stored in a barn near the airport, a complete washout. Am happy to report no one was hurt.

Perhaps the best way would be to require every beginner to fly ten hours under the supervision of an experienced flier, after he has completed his solo flight, at some place or airport set aside for that purpose. The pilot, who has just made his first solo, and for some cause or other, remains on the ground for a few weeks, requires the guidance of an instructor for at least several circuits of the field. These facts should all be taken into consideration, and yet not be severe enough to discourage interest.

Regarding the type of plane, I have flown every type except the PN and Curtiss racers, although my work of late is confined to Lairds, Jennies, Standards, Orioles and Avros. For your information, my present pastime is selling life insurance and doing odd bits of flying as they come. I am not employed by any particular concern but do a Sunday passenger business wherever I can get the most for my services. I drew a line last year and resolved not to fly anyone's junk or poorly conditioned planes, so my flying for 1925 consisted of teaching five men, who had their own planes, to fly.

There was a greater demand for my time during the summer than I could accommodate. I am working to promote a better rate on life insurance for flying men and hope to have something worth while to offer my fellow fliers by spring.

On account of the gypsy flier who flies hours and hours without recognition, unless he has a wreck, figures on accidents are hard to obtain. In the year of 1924, the Mayer aircraft received for flying alone $6500.00 and had a very small operating expense, due to the way the pilot was employed.

Federal control of flying may not be helpful if the Army gets its control of it. Sound companies, organized for transportation purposes, should be subsidized by the Federal Government. Student fliers, who learn to fly under a certain age limit, should be granted a bonus after completing so much time in the air. Any pilot or school, that trains a finished flier, should be given a bonus. Under a system of this kind, our manufacturers would be active again.

Another suggestion about Federal control. To use Cy Caldwell's expression, the "Royal Order of Looseleaf Modocks" should be prevailed upon to stay in the places, on the ground, and far away from the actual control of flying. There are plenty of men who have nerve enough to invest to promote flying, but who haven't nerve enough to fly and there are plenty of flying men with brains and ability to look after any executive work that should be required.

To stimulate interest and promote flying, make everyone connected with regulation fly. The results will then be harmonious instead of discordant.

State control in any case would be confusing. For instance, we frequently fly into Ohio and to cross a state is a small matter in the day's work of travel by air. Keeping posted on traffic rules and regulations for all the different states would be a fine excuse for losing whatever kind of license a pilot might have.

E. W. CLEVELAND,
Bridgeville, Pa.

Against Legislation of Commercial Flying

Let me compliment you on your stand in favor of civilian aviation in general and the small commercial aviator and sportsman—the fellow who flies for pleasure only—in particular, and if you will permit me, I would like to indorse at the outset what you advocated in your News Letter of the 28th of December, viz; the real difference between commercial aviation or interstate air transport and all other civilian aerial activities coming under the heading of aerial service, as you call it.

This indorsement, I believe, will indicate quite clearly where I, individually, stand on the subject of national legislation on aeronautics. There cannot be any doubt in the mind of any citizen that the United States should do everything possible to encourage civilian aviation of all kinds, as has been pointed out on numerous occasions by everybody who has ever given the subject any thought; but whether legislation of the kind which some of our legislators are proposing now, would help to foster civilian aviation or tend to kill this infant industry rather than help it—that is the question.

From my (limited) experience with various types of airplanes, both Army and civilian, there are a few lessons which I have learned at considerable cost, just as everyone else who has tried to make money by carrying passengers without adequate equipment, without organization, etc. These lessons, as well as the experience of the other pilots and operators, were in evidence when we, as members of the N.A.A., spent a good deal of time trying to amend the Winslow bill of the last year, in order not to be accused of "destructive" criticism.

The membership of the Chicago Chapter of the N.A.A. indorsed the report of our committee and submitted it to the national body in writing. What has become of it, is more than I know. I suspect that our recommendations landed in the waste-basket where they were intended to land before we ever started to fool with them. The report may not be of any more consequence than the N.A.A., when it comes to civilian aviation in the United States, but I feel that I ought to point out some of the salient features of that report.

Continued on page 156

Better finish in less time!

Waterproof, Weatherproof Airplane Finishes

ALL over the world, Valentine Finishes are the choice of designers and builders of fine aircraft. And good reason! For they possess those essential qualities that make for lasting, waterproof protection.

No other finishes can equal them in durability and resistance to hard service—they are built to stand punishment. Constant exposure to snow, sun or rain, abrupt changes of temperature, severe wear and weather, oil, grease and gasoline—Valspar and *Nitro*-Valspar withstand them all to a degree unequalled by any other materials.

VALENTINE'S VALSPAR
The Varnish That Won't Turn White

Valspar's identification with aircraft dates back to the earliest days of the industry. Because of its extraordinary durability plus absolute waterproofness Valspar quickly proved its ability to meet the requirements of aircraft in a way unequalled by any other varnish.

And in the epochal events of modern times in which aircraft have figured, Valspar has played a vital part. During the world war thousands of planes built for the American and foreign forces were finished with Valspar. In the 'Round-the-world flight all planes that participated were finished from stem to stern with Valspar, as was the latest (Curtiss) plane to win the Pulitzer Cup.

Valspar's well-known waterproof qualities—its ability to withstand the attack of wind and wave—made it the logical finish for the NC-4, first seaplane to cross the Atlantic.

Valspar, clear or in colors, is particularly well suited to the requirements of smaller plants where the saving of time and space is not of the greatest importance. It is easily and quickly applied and dries overnight.

Nitro-VALSPAR

The Valentine Nitrocellulose Lacquer

More than a varnish, more than a lacquer, *Nitro*-Valspar is the ideal finish for manufacturers desiring a product that combines maximum durability with rapidity in application and drying, *plus* minimum weight.

Nitro-Valspar produces a film that is considerably thinner than a varnish film, yet so tough, durable and impervious to moisture as to retain its beautiful and protective surface under the most severe exposure.

Another advantage: *Nitro*-Valspar dries as soon as it is applied. And it adheres tenaciously to wood or metal surfaces alike.

Nitro-Valspar is designed for the rapid spray-gun application, but can be brushed on if desired. With this material all finishing operations required on an airplane can be completed in half a day or less. That is why *Nitro*-Valspar is best suited to the purposes of larger plants where speed in production and conservation of space are vital factors.

Available in any color, *Nitro*-Valspar produces a smooth, lustrous surface which is easy to clean, never chalks and defies the destructive effects of oil, grease or gasoline.

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Pilots Views on Legislation

Continued from page 154

There was no opposition to the registry of planes and landing fields, except that most men seemed to think that a classification of planes and fields should be carried through, and the same thing applies to the licensing of pilots; particularly those who would fly transports (passengers or merchandise.) There was a feeling, however, against excessive fees for either registry or licenses to the little fellow, or the joy-flier.

The greatest opposition was to inspection, and I would like to point out to those who are continually prating about the gypsy flier, who is supposed to be the worst kind of an irresponsible blind, deaf and dumb dog, flying the worn out army training planes of long ago (crates that were not much good when they were new and now are a positive danger to the public in general) that the facts are all against their argument for the necessity of Government inspection.

The number of accidents per number of miles flown and per number of passengers carried by these gypsy fliers is small when compared to the number of crashes of all kinds in the Army and Navy air services, where inspection is supposed to be carried out with the greatest care by the most competent experts. Right here in Chicago we have had practically no accidents to civilian aviators, their planes and passengers, but we have had quite a number of accidents chargeable to the Army Air Service and Air Mail. Moreover, let me say that the most airworthy ship in the world, inspected by the most competent ground engineers, flown by the most competent pilot, may run out of gas in the wrong place (as they always seem to do,) run into bad weather, etc. and all the inspection in the world will not prevent the large majority of crashes, which are due, as we are told, to what is politely called, pilot's error, or, in the vernacular, plain bad flying.

Why is it that there is so little civilian flying (non-subsidized) in England, France and Canada? If legislation were such a wonderful means of fostering civilian aviation, there certainly ought to be more flying done in Canada, since the characteristics of that country are about the same as those of our Middle West.

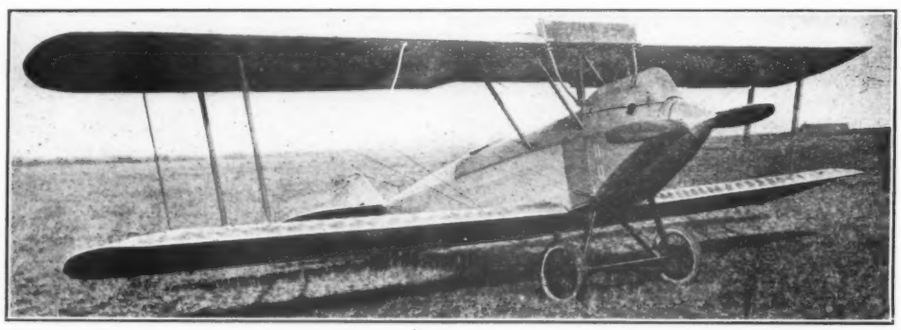
Let me call your attention also to the fact that the average civilian is gradually flying better airplanes. You know that a lot of old Jennies are being gradually replaced with Lairds, Swallows, Wacos, Travel Airs, etc., and it is only a question of time before one will be able to buy an airworthy light three-place ship, for $1500.00 or less. That type of plane will be sold and flown in large numbers, and will do more for the airplane business than a few orders for large transports, or a few "bootlegger chasers."

The forerunner of airplanes, the automobile, may be called an instrument of destruction or death, in the hands of some people, but that did not bring about restrictive legislation of any kind, and you can figure out for yourself how many automobiles we would have today if Winslow bills or Bingham bills had been imposed on the automobile industry twenty years ago.

If my remarks will help in the slightest to bring about a better understanding of what is needed for commercial aviation, or rather, what is not needed at this time, I shall be very happy indeed. Meanwhile, I want to thank you for trying to get the individual owner pilot's viewpoint, and I would suggest that you go just one step further if you can. That is, that you try to organize, with the help of some of your competent friends, the civilian fliers of the United States, of which there are almost two thousand, I am told. I feel certain that if you just send a letter along those lines to the list you have just used, it would meet with instantaneous response. That kind of organization, would, I believe, help a lot to make America first in the air.

M. M. Rubner,
Chicago, Ill.

The Swallow Mail Plane



C.6. Motored Swallow

Where Reliability, Performance and Economy
ARE THE GOVERNING FACTORS YOU WILL ALWAYS FIND
The SWALLOW
THERE IS A REASON

WRITE OR WIRE FOR PARTICULARS.

SWALLOW AIRPLANE MFG. CO. Wichita, Kans.

New Engines Are Scintilla Equipped

The Scintilla Magneto Co., Inc., of Sidney, N. Y., is equipping many of the new American military and commercial types of aircraft engines with Scintilla aircraft magnetos.

Among these are engines produced by Curtiss, Wright, Packard, Rickenbacker, Fairchild, Gamanez, and Pratt & Whitney. Included in the Scintilla equipped engines, are a comparatively large number of Curtiss D-12's recently ordered by the Fairey company for the British Government.

One of the latest military engines for which Scintilla aircraft magnetos have been specified is the Wright Simoon 350 hp. air-cooled radial, installed in the Wright Apache deck-landing plane, a description of which appears in this issue.

Among the foreign engines which are Scintilla equipped is the 450 hp. Lorraine-Dietrich, the engine with which Commander de Pinedo accomplished his great flight of 34,000 miles from Rome to Tokio and return.

Ford Airplane Factory Burnt

The airplane experimental laboratory of the Ford Motor Company in Dearborn was destroyed by a fire of undetermined origin which broke out at 6 o'clock on the morning of Jan. 17. The loss, which is estimated at about $300,000, included four practically completed all-metal airplanes intended for the Detroit-Chicago service.

The laboratory was a one-story building, about 200 ft long. The roof was of wood and the containing walls were of steel. Inside, were offices and machinery used in experimental work.

Dearborn called the assistance of the Detroit Fire Department. The combined brigades were able to save the hangar, about 200 ft. from the burning building, which housed other Ford planes.

Ford engineers had just planned to remodel the laboratory to take care of expanding construction. It was built in the spring of 1924 to carry on experimental work with the all-metal plane evolved by William B. Stout.

One of the four planes destroyed in the conflagration was the new three-engine Ford plane which was to be used on the Detroit polar flight expedition. Thus, with the destruction of this plane the only all-American built plane in the proposed flight is eliminated.

Chicago-St. Paul-Minneapolis Air Mail Contract

Postmaster General New, on Jan. 11, awarded to Charles Dickinson, of Chicago, the contract for carrying the United States Mails by air from Chicago to Saint Paul-Minneapolis, via Milwaukee and LaCrosse, Wis. Dickinson will begin operation just as soon as he has equipped his landing fields. He is to receive 48% of the revenue derived in carrying the mails.

The contractor for this commercial air mail route has three machines of the Laird type ready to fly at once. Each will be capable of making 96 mi./hr.

The Rainy Lake Mapping Survey

In the review of McCook Field activities, published in the Jan. 11 issue of AVIATION, mention was made of the photographic trips made by McCook Field pilots in connection with the Rainy Lake mapping survey. These flights were undertaken, as stated in cooperation with the U.S. Geological Survey, but the article failed to state that the Air Service participated in this project at the request of the Engineer Corps, in conjunction with the International Joint Commission.

These flights are but another example of the excellent work which has, from time to time, been carried out in the field of aerial survey by airplane by the Army Air Service with unqualified success.

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Announcement to all users of aircraft

Just off our presses: our new 1925 catalogue No. 2. It contains some amazing prices and bargains of vital interest to anyone in any way connected with aviation. These bargains are made possible by the enormous volume of our business. We will gladly send you this catalogue. Write for it.

SOME EXTRACTS FROM IT:

Crank Shaft	$15.00	Bearing, Main	$ 1.00
Radiator	$12.00	Valves, Inlet, 20 Ex.	$ .30
Tires (26x4)	$ 3.00	Propeller Hub Puller	$ 2.00
Tires, D.H.	$ 4.00	Zenith Carburetor	$12.00
Shock Absorber (good live rubber) per foot	$ .12	JN double aileron wings	$50.00
Set of landing gear struts	$ 8.80	Piston Rings	$ .15
Complete set of 80 gaskets	$ 3.00	New Berling magnetos	$15.00
Booster magnetos	$ 5.00	Toothpick propellers, all makes	$10.00
Altimeters	$ 5.00	Hisso 150 H.P. propellers	$20.00
Spark plugs	$ .20	D.H. wheels	$ 5.00
Cylinder	$ 7.50	Complete set 20 hose	$ 1.25

A WONDERFUL OPPORTUNITY: Mercedes, 160 H.P., brand new, never been run except on test block, original crates, complete in all details, including propeller hub, $550. each—$1,000. a pair.

"THE LEVIATHAN OF THE AIRCRAFT FIELD"

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editor

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New World Records Recognized

The Federation Aeronautique Internationale has recently recognized the following new world records for airplanes and seaplanes, established in accordance with F.A.I. regulations.

CLASS C—Airplanes
Without Useful Load

SPEED for 100 Km. (United States)
Lt. Cyrus Bettis, USAS, Curtiss R3C1, Curtiss V1400 600 hp. at Mitchel Field, N. Y., Oct. 12, 1925 — 401.279 k.p.h. 249.343 m.p.h.

Former Record for 100 Km:
Lt. A. J. Williams, USN., Curtiss Racer R2C1
Curtiss D12a, 500 hp. at St. Louis, Mo.
Oct. 6, 1923 — 392.379 k.p.h. 243.812 m.p.h.

SPEED for 200 Km. (United States)
Lt. Cyrus Bettis, USAS, Curtiss R3C1, Curtiss V1400 600 hp., Mitchel Field, N. Y., Oct. 12, 1925 — 400.687 k.p.h. 248.975 m.p.h.

Former Record for 200 km.:
Lt. A. J. Williams, USN., Curtiss Racer R2C1
Curtiss D12a, 500 hp. at St. Louis, Mo.
Oct. 6, 1923 — 392.154 k.p.h. 243.672 m.p.h.

CLASS C[3]—Seaplanes
Without Useful Load

MAXIMUM Straightaway Speed (United States)
Lt. James H. Doolittle, USAS., Curtiss R3C2, Curtiss V1400 600 hp. Bay Shore, Baltimore, Md., Oct. 27, 1925 — 395.489 k.p.h. 245.713 m.p.h.

Former Record for maximum straightaway speed (Great Britain)
Capt. H. C. Biard, Supermarine-Napier S4,
Napier Lion 450 hp., Southampton
364.924 k.p.h.
226.752 m.p.h.

SPEED for 100 km. (United States)
Lt. James H. Doolittle, USAS., Curtiss R3C2, Curtiss V1400 600 hp. Bay Shore, Baltimore, Md., Oct. 26. 1925 — 377.829 k.p.h. 234.773 m.p.h.

Former Record for speed 100 km.
Lt. R. A. Ofstie, USN., Curtiss Navy CR, Seaplane
Curtiss D12, 450 hp., Bay Shore, Baltimore, Md.
Oct. 25, 1924 — 286.86 k.p.h. 178.25 m.p.h.

SPEED for 200 km. (United States)
Lt. James H. Doolittle, USAS., Curtiss R3C2, Curtiss V1400 600 hp. Bay Shore, Baltimore, Md., Oct. 26, 1925 — 377.158 k.p.h. 234.355 m.p.h.

Former Record for 200 Km.
Lt. R. A. Ofstie, USN., Curtiss Navy CR, Seaplane
Curtiss D12, 450 hp, Bay Shore, Baltimore, Md.
Oct. 25, 1924 — 286.86 k.p.h. 178.25 m.p.h.

CLASS C—Airplanes
With Payload of 6000 Kg. (13,277.73 lb.).

DURATION (France)
Lucien Bossoutrot, Super Goliath Farman,
4 Farman engines, 500 hp. each at La Bourget,
Nov. 16, 1925. — 1 hr. 12 min. 21 sec.
Former Record (None)

ALTITUDE (France)
Lucien Bossoutrot, Super Goliath Farman,
4 Farman engines, 500 hp. each at La Bourget,
Nov. 16, 1925. — 3,586 m. 11,765 ft.
Former Record (None)

In accordance with Article III of the F.A.I. Regulations, the following records are also recognized:

With Payload of 5000 Kg. (11,023.11 lb.)

DURATION (France)
Lucien Bossoutrot, Super Goliath Farman,
4 Farman engines, 500 hp. each at La Bourget,
Nov. 16, 1925. — 1 hr. 12 min. 21 sec.
Former Record (None)

ALTITUDE (France)
Lucien Bossoutrot, Super Goliath Farman,
4 Farman engines, 500 hp. each at La Bourget,
Nov. 16, 1925. — 3,586 m. 11,765 ft.
Former Record (None)

CLASS C—Airplanes
With Payload of 4000 Kg. (8,818.48 lb.).

DURATION (France)
Lucien Bossoutrot, Super Goliath Farman,
4 Farman engines, 500 hp. each at La Bourget,
Nov. 12, 1925. — 2 hr. 19 min. 16.4 sec.
Former Record (United States)
Lt. H. R. Harris, U.S.A.S. and Mechanician Douglas Culver,
Barling Bomber, 6 Liberty 400 hp. at Wilbur Wright
Field, Dayton, Ohio, Oct. 3, 1924.
1 hr. 47 min. 10.5 sec.

ALTITUDE (France)
Lucien Bossoutrot, Super Goliath Farman,
4 Farman engines, 500 hp. each at La Bourget,
Nov. 12, 1925. — 4,990 m. 16,371 ft.

Former Record (United States)
Lt. H. R. Harris, U.S.A.S. and Mechanician Douglas Culver,
Barling Bomber, 6 Liberty 400 hp. at Wilbur Wright
Field, Dayton, Ohio, Oct. 3, 1924. — 1,363 m. 4.472 ft.

In accordance with Art. III of the F.A.I. regulations, the following records are also recognized:

With Payload of 3000 Kg. (6,613.86 lb.).

DURATION (France)
Lucien Bossoutrot, Super Goliath Farman,
4 Farman engines, 500 hp. each at La Bourget,
Nov. 12, 1925. 2 hr. 19 min. 16.4 sec.

Former Record (United States)
Lt. H. R. Harris, U.S.A.S. and Mechanician Douglas Culver,
Barling Bomber, 6 Liberty 400 hp. at Wilbur Wright
Field, Dayton, Ohio, Oct. 3, 1924.
1 hr. 47 min. 10.5 sec.

ALTITUDE (France)
Lucien Bossoutrot, Super Goliath Farman,
4 Farman engines, 500 hp. each at La Bourget,
Nov. 12, 1925. 4,990 m. 16,371 ft.

Former Record (France)
Lucien Bossoutrot, Farman Goliath,
Farman 600 hp. at Toussus, May 17, 1924.
1,942 m.
6,371 ft.

With Payload of 2000 Kg. (4,409.24 lb.).

DURATION (France)
Lucien Bossoutrot, Super Goliath Farman,
4 Farman engines, 500 hp. each at La Bourget,
Nov. 12, 1925. 2 hr. 19 min. 16.4 sec.

Former Record (United States)
Lt. H. R. Harris, U.S.A.S. and Mechanician Douglas Culver,
Barling Bomber, 6 Liberty 400 hp. at Wilbur Wright
Field, Dayton, Ohio, Oct. 3, 1924.
1 hr. 47 min. 10.5 sec.

ALTITUDE (France)
L. Bossoutrot, Super Goliath Farman,
4 Farman engines, 500 hp. each at La Bourget,
Nov. 12, 1925. 4,990 m. 16,371 ft.

Former Record (France)
Lucien Bossoutrot, Farman Goliath,
Farman 600 hp. at Toussus, May 8, 1924.
4,475 m.
14,682 ft.

CLASS C²—Seaplanes

With Payload of 1000 Kg. (2,204.62 lb.).

ALTITUDE (France)
M. Paumier, Louis Schreck seaplane F.B.A.,
Hispano-Suiza 500 hp. at Argentine, Dec. 12, 1925. 4,053 m. 13,297 ft.

Former Record (France)
Buri, Blanchard seaplane, 2 Hispano-Suiza,
300 hp. at Saint Raphael, Jan. 11, 1924.
3,744 m.
12,283 ft.

Fuels For High Compression Engines

FUELS FOR HIGH COMPRESSION ENGINES. By Stanwood W. Sparrow. Report No. 232 of the National Advisory Committee for Aeronautics, Washington, D. C.

This report is based very largely on results of tests made at the Bureau of Standards during 1922, 1923, and 1924 under research authorization of the National Advisory Committee for Aeronautics.

From theoretical considerations one would expect an increase in power and thermal efficiency to result from increasing the compression ratio of an internal combustion engine. In reality it is upon the expansion ratio that the power and thermal efficiency depend, but, since in conventional engines this is equal to the compression ratio, it is generally understood that a change in one ratio is accompanied by an equal change in the other. Tests over a wide range of compression ratios (extending to ratios as high as 14:1) have shown that ordinarily an increase in power and thermal efficiency is obtained as expected, provided serious detonation or preignition does not result from the increase in ratio.

There are marked differences between fuels as regards the conditions under which they detonate or preignite. It follows that the employment of a high compression ratio is contingent upon securing a fuel which is suitable in its resistance to preignition and detonation, and which, at the same time, possesses the other qualities essential to a satisfactory engine fuel.

This report emphasizes the fact that there may be a difference between a fuel's ability to resist detonation and its ability to resist preignition. Although this report is primarily a general discussion of the properties essential to a satisfactory fuel for high compression engines, certain fuels, benzol and alcohol in particular, are discussed in some detail.

A copy of Report No. 232 may be obtained upon request from the National Advisory Committee for Aeronautics, Washington, D.C.

AIRPLANES FOR SALE

We sold over $110,000.00 worth of airplanes, motors and parts last year and still have a large number for sale. We believe the prices on airplanes are at their lowest, and a small deposit on any of our airplanes will hold same for spring delivery. We expect a sharp advance in prices very soon.

We still have plenty of Standards, Jennies, Canucks, Orioles, D.H.'s with Liberty motors, Spads less motors, T.M. Scouts with and without motors. A large number of these airplanes are set up, test flown, and ready for immediate fly away delivery. Come and take your pick.

NEW STANDARD J-1 AIRPLANES with guaranteed overhauled Hispano-Suiza motors, 150 H.P. $1500.00
NEW STANDARD J-1 AIRPLANES with new OXX6 motors 1300.00
NEW STANDARD J-1 AIRPLANES with Government overhauled OXX6 motors 1100.00
NEW STANDARD J-1 AIRPLANES with new OX5 motors 1100.00
NEW STANDARD J-1 AIRPLANES with Government overhauled OX5 motors 900.00
NEW STANDARD J-1 AIRPLANES without motor 650.00

These airplanes come complete with tools and instruments and the front seat is built so as to accommodate two passengers. These airplanes have been reconstructed and new longerons, new controls, new wires, new struts, new fittings, new instruments were installed where needed. One-third deposit will hold any of the above airplanes for spring delivery, storage and insurance free.

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NO BOND REQUIRED FOR SOLO FLIGHTS AND NO CHARGE FOR BREAKAGE

$100.00

ROOM AND BOARD NEAR FIELD AT $10.00 PER WEEK

The splendid response to this special offer (originally limited to June, July and August) permits us to extend it until further notice.

We will guarantee to teach a student to fly and successfully operate an airplane by himself, regardless of the number of flying hours required, and further, to furnish an airplane, free of charge, for the period of one hour for practice flights.

The flying school of the Robertson Aircraft Corporation is one of the oldest and best known in the United States. All of the instructors are ex-army aviators with wide experience and the equipment is the best that money can buy. The flying field is approximately six miles from the city of St. Louis and is easily accessible by railroad, street car and hard surfaced roads. It is the largest and best privately owned field in the country and the International Air Races of 1923 were held there.

Our course includes thorough flying training as well as complete instruction in the overhaul, care and maintenance of both the airplane and motor. The time within which one can learn to fly, varies with the individual; eight to ten hours of dual instruction, stretched over a period of ten days to two weeks should complete the most stubborn case, and from then on, the refinements of the art can be gained only from experience. Commercial aviation is a rapidly growing industry. Don't delay! Enroll now!

WRITE FOR BOOKLET.

ROBERTSON AIRCRAFT CORPORATION

ST. LOUIS FLYING FIELD, ANGLUM, MO.

AIRPORTS AND AIRWAYS

New England News

By Porter H. Adams

Dan Rochford's column in the Boston Transcript of Jan. 11, might properly have been called "A year at the Boston Airport" instead of "A week at the Boston Airport", for Dan gave a very complete and accurate summary of all the operations in the vicinity of Boston during the past year. The actual Air Service time for the year is 3,631 hr. 35 min., divided as follows:

Reserve officers	1682 hr. 40 min.
National Guard Officers	1062 hr. — min.
Regular Army Officers	921 hr. 35 min.

* * * *

Anyone who has tried to keep track of flying time, even when continually on the job, will realize that it is nothing short of marvelous that Rochford, in addition to his duties on the Boston Transcript and his connections with other patriotic activities, such as the American Legion, the Army and Navy Service Club, the Aviation Show, etc., has been able to find time to list and analyze the aeronautical operations for the past year in Boston and vicinity. He will long be remembered as the first historian of the Boston Airport and as such will, we hope be praised, as he deserves.

* * * *

During the week of Jan. 9, Lieut. H. R. Wells flew, with Capt. W. B. Myers as a passenger, to Washington, D.C., in 3 hr. 25 min., from the Boston Airport. This beats the record which Jimmy Doolittle previously had, by five minutes.

* * * *

The most momentous news of Boston or elsewhere is the arrival of the famous Cyril C. Caldwell, who is now a pilot for the Boston Airport Corporation and flies Travel-Air planes. Cy, it is understood, is going to act as a traveling salesman of Travel-Air planes and has already started on the job, flying to Hartford and then continuing South. While we have always recognized Cy's ability and charm as an author, it was not until we discovered that he was a graduate of the Newton, Massachusetts, High School and lived in Boston until 1915, that we realized what Boston has missed since that time and it is with great satisfaction that we welcome him back.

* * * *

On Jan. 19, the Boston Chapter of the National Aeronautic Association held its first luncheon of the season at the Boston City Club. Representatives of the various commercial aviation activities in Boston outlined their plans for the coming season. It is hoped that these luncheons will be a regular feature, and all people interested in aviation are cordially invited to attend. Full particulars can be obtained from Prof. Edward P. Warner, Massachusetts Institute of Technology.

* * * *

Army aircraft at the Boston Airport flew 36 hr. 40 min. during the week ending Jan. 16. During the same time the National Guard flew over 10 hr. and the Navy, operating its Jenny, flew from the Boston Airport 4 hr. 17 min.

* * * *

The Air Service Reserve Officers' Association held its meeting and election at the Boston Airport on Saturday, Jan.

METEORMOTOR
THE LIGHT WEIGHT CHAMPION

MODEL 72
20 - H.P.

WEIGHT
60 - LBS.

IRWIN AIRCRAFT CO.
Established 1908
SACRAMENTO CALIFORNIA

Denver, Colo.
Mr. J. Don Alexander, President, January 15, 1926
Alexander Industries.
Dear Mr. Alexander:
It was my pleasure on January 14th to fly the new EAGLEROCK plane.
I am frank to state that it gave me the surprise of my flying experience. It out-climbs anything I was ever in, regardless of horsepower. Its stability and maneuverability are wonderful.
(signed) J. H. Cordner Capt. Air Service, Colo. N. G.
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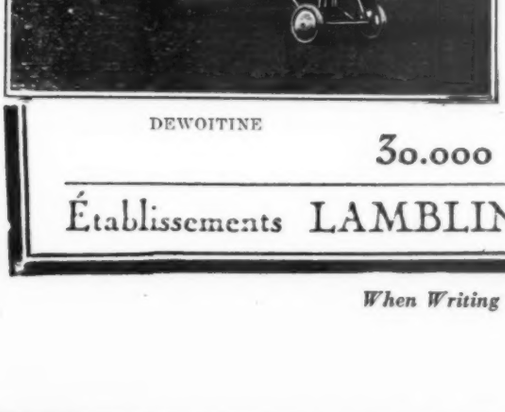

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16, at which time 1st. Lieut. George Lusk was elected president; Lieut. Frank Crowley, vice president; Lieut. Charles Clark, secretary; and Lieut. Robert L. O'Brein, treasurer. Major Ira Longanecker addressed the meeting and spoke on the restriction just issued by the War Department which limits reserve pilots to 4 hr. flying per month.

Philadelphia News

By Townsend Ludington

Frank Mills, of the Essington School of Aviation, reports that he has sold five seaplanes recently and that, during the summer, he instructed several students and had a very successful season. At the present time, with ice on the river, business is very dull. Pitcairn Aviation is continuing passenger carrying and other activities when conditions permit and is planning to widen the scope of its activities this coming summer. At Pine Valley some more work has been done with night flying equipment and night flights were recently made by E. P. Lott, Chief Pilot of the National Air Transport, Inc., and Robert Hewitt, carrying as passengers, Paul Henderson, general manager of the National Air Transport, Inc.; C. T. Ludington, and Edward W. Jackson of the B. B.T. Corporation of America.

Work on the Municipal field is progressing and the plowing and grading are now about 60% completed. It is expected that the field will be ready for use in April or May. At a recent meeting of the Aero Club of Pennsylvania, Harold F. Pitcairn was elected President, H. N. Taylor, 1st.-Vice-President, C. T. Ludington, 2nd. Vice-President, William H. Sheahan, Treasurer and Roy G. Miller, Secretary. The directors elected are W. Wallace Kellett, Dr. Thomas E. Eldridge, Joseph A. Steinmetz, R. S. Saltus, Jr., J. V. Dallin, Thorton D. Hooper, Robert P. Hewitt and C. B. Graham.

Detroit News

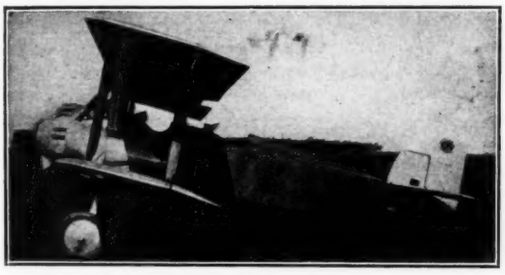
By Virgil Simmons

In the last six months of 1925, Detroit air progress has proceeded through a series of erratic, if at times spectacular, steps. The months of July, August and September brought in a few advertising contracts, to operators of private airports, while the demand for passenger flights, taxi service, student instruction, etc., showed a steady decrease. It was the majority opinion of the eight local private airport operators about a year ago that the flying season of 1925 would keep all the airplanes busy, but it proved to be otherwise.

At the present time, Detroit's unprecedented real estate development has reached out to the fields previously used for commercial flying. As a consequence, we have a multiplicity of "Aviation Park Subdivisions" recently opened. The Burns field and Stinson field, both on Southfield Road, were doomed by the subdivider early last September but flying continued up to the actual point of cutting through the streets. Eastwood Field, which I have operated for two years, has already been sold out; Northwood Field, which I also operate, will probably soon lose 160 of its 200 acres, to lot speculators, leaving the remainder, such as there is, for commercial flying, for a short time.

A number of the airport operators turned their attention to the problems of plane and engine development shortly after the operating loss appeared to be excessive and with no ready solution at hand. So, more and more attention was withdrawn from the flying field and placed in the workshop and the laboratory, with the result that, shortly, the new four-place cabin job of Eddie Stinson's, incorporating many new features including wheel brakes, and the new five-place Hess plane, with OX5 engine, will each be tested.

I have, fortunately, been able to secure a temporary arrangement with the Packard Motor Car Co. for the commercial use of Packard Aviation field, and, if hoped for conditions proceed to completion, anticipate a very active season there during the coming season. With practically all the commercial airdromes around Detroit subdivided, Packard Field could very well reassume its important position of three years ago, when an average of 12 planes could earn approxi-



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mately $100.00 each on Sunday flights.

The Hunt Aviation Co., managed by Jack and Wellington Hunt, who have operated Packard Aviation field for the past three years, will transfer their aeronautical activities to the manufacturing of a three-place commercial plane, designs for which are now being completed.

So, the fliers here have taken full cognizance of the situation. They have placed their year's operating loss over in the column of "education", and forged ahead with their individual ideas of plane and engine development. They are backed by Detroit's most influential men, most of whom are deeply air-minded and belong to either the flying club or the aviation society.

Chicago, Ill.

By O. Klein

With the beginning of 1926 Chicago's greater north side can boast of five recognized airports. All are outside of the city limits, but, with the steady expansion of the city, nothing better could be expected. In fact, it will only be a few years until these fields too will have to yield to the onrushing real estate men and building contractors.

The old Morton Grove field on Dempster Street, just a few miles West of Evanston, is still in operation, but will probably go out of existence in the spring when sidewalks and sewers will be laid through it. The field has already been subdivided and sold, but good hearted real estate men consented to leaving the stakes out until spring.

Almost due west of Morton Grove on River Road and Touhy Avenue is the Heath Airplane Company's new field. It comprises about 80 acres with two clusters of trees that provide excellent shelter for the planes. There is a gas station and lunch room at the intersection of the roads, where a telephone is also available. There is a wind cone on the outside of the lunch room and ice cream cones inside, both welcome to the flier when warm weather sets in.

Not far south of this field, on River Road, is the Schiller Park Airport, operated by Stanley Wallace. This field is not so large, but has fairly good approaches. There is a shelter at the field, but no telephone.

Several blocks South from there, and a short distance East of the Des Plaines River, on Irving Park Blvd., is the Chicago Flying Club field, operated by the Western Airplane Corp. This field adjoins a large field belonging to the County Forest Preserve. There is a shelter here also.

Northwest of the city on Milwaukee Avenue just South of Wheeling, Roy Guthier has established a field from which he flew a five-place Standard all last summer. The field is amply large with good approaches, especially in one direction. Gasoline station and telephones are available.

All of the above fields are connected by numerous pastures, providing plenty of open country to land in at all times. They are located almost due north from the Air Mail field, which also is located close to the Des Plaines River. The fields can be reached by motorbus, connected with Chicago street car lines.

Staten Island, N. Y.

The Schavan Airways, operating from Green Ridge, Staten Island, N.Y., changed their name on Jan. 9, 1926, and are now known as the Richmond Airways Inc.

George Schaaf is president of the new company, Wm. Wincapaw is treasurer and Mr. Van de Nyden is the secretary. Mr. Wincapaw is also pilot for the concern, having had some ten years experience with seaplanes.

The company did not get started until the latter part of July last summer but after that they did a profitable business, working until Dec. 18, at which time the bay froze up and the flying boats had to be hauled out of the water. Some 485 passengers were carried during the summer. Four students were given instruction and a considerable amount of other work brought the total flying hours up to 303. The company operates two HS2L's and one K6 Sea Gull. After paying for all the expenses, the company showed enough net profit to convert the two HS's and to thoroughly overhaul the

Sea Gull, in order to be ready for operation again by April 1.

George Schaaf, president of the company, is designing a monoplane flying boat with a metal bottom. The boat, which will be a cabin type, will be powered with two Wright Whirlwind engines. The boat will be able to seat six and the pilot and will have a speed of 100 m.p.h.

Avon Park, Fla.

Avon Park is going ahead with the active development of an airport. Otis Hardin, pilot and contractor, in association with Gene Sebring and Payne Sebring, is planning to make the 40 acres between the two Angelo flats the most complete airport in the state, with hangars for planes, well equipped machine shops, a gas station and other conveniences including provisions for day and night service.

Pilot Francis Fahey is supervising the construction of the field and a hangar to take a 47 ft. span plane is almost finished. Another hangar for a 26 ft. plane is almost ready and another for a similar machine is to be erected as soon as the two now being built are finished.

The building for the machine shops is up and tools are being brought in. Wide swinging doors will permit the men to roll even the largest machines, minus their wings, into the shop. The shop will be in charge of John Hayden.

An army flier, with more than 2,000 hours to his credit, is to join the forces as soon as the field is complete, and Hardin plans to open a school of instruction.

Air Probe Cost $11,963

President Coolidge has asked the House for $11,963 to defray expenses of the Morrow board which recently investigated the aircraft situation.

French Airman Plans Flight Over Everest

The French aviator, M. Callizo, who holds the world record for altitude, will attempt one of the most perilous feats in the history of aviation when he takes off next March in an effort to fly over Mount Everest.

M. Callizo does not intend to descend upon the summit of Everest, which is 8,839 meters above sea level, but he will content himself with taking photographs and dropping a French flag. A moving picture operator and a navigator will accompany the aviator in a specially built plane of 500 hp.

The difficulties lie in the fact that a heavy load of fuel, food and equipment must be carried for the three men, in order that the machine may stay in the air long enough to reach the top and return to a base in India.

The lack of landing places—it is said that there are only two or three—is the most dangerous factor.

Cobham, the English aviator, who flew around the base of Everest, said the only way to reach the top would be by means of an airplane. The English expedition, headed by General Bruce, failed last year to scale the summit on foot, after reaching an altitude of 8,330 meters.

United States Air Forces

U. S. ARMY AIR SERVICE

Model Airways Notes

Five new meteorological stations for the Model Airways were authorized by the Adjutant General under date of Dec.

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31, 1925. The Signal Corps is cooperating with the Air Service to have the detachments working at Kansas City, Dallas, Muskogee, Cumberland and Uniontown by March 1. In each case, except at Uniontown, the detachment will not only prepare the weather reports but will broadcast the data. No radio installation is provided for Uniontown, but the two Signal Corps meteorologists to be stationed there will furnish the service formerly given by the Bell Telephone Co. operator, telephoning the meteorological conditions to Langin Field at Moundsville, which will, in turn, broadcast the report for Bolling and McCook Fields.

These stations have been most urgently needed since the inauguration of the scheduled Airways flights in 1922 and 1923. In the approval of the meteorological service included in the 1926 section of the 5 year Airways expansion program is seen a significant step toward recognizing the importance of providing the weather information for aeronautical operations.

The final runs have been made on three new strip maps: Selfridge to Chanute fields; Selfridge Field to Dayton; Dayton to Louisville. Strip maps are now available for all sections of the Model Airways in operation. For the purpose of determining, by actual use, the relative value of strip maps with and without border sketches, a reprint of the present Bolling Field to Langley Field map is being ordered without border sketches and comments of pilots using the new map will be awaited with interest.

Army Air Orders

Capt. Charles T. Phillips, A.S., on temp. duty Off. Ch. Mil. Bur., Washington, relieved from duty as Inst'r., Nat. Guard, Baltimore, to report to Ch. Mil. Bur. for duty.

Capt. William C. Ocker, A.S., relieved from additional duty Organ. Res., Ninth Corps Area, Rockwell Field.

Resignation Sec. Lieut. John Adams Austin, A.S., of Com. as Off., accepted.

Resignation Sec. Lieut. Alexander George Greig, A.S., of Com. as Off., accepted.

Transfer of Sec. Lieut. Judson MacIvor Smith, A.S., to Inf., announced. Lieutenant Smith relieved from duties with Sec. Div. and will report to Com. Gen. of that Div. for duty with the Field Art.

Transfer of Thomas Elton Smith, A.S., to Field Art., announced. Lieutenant Smith relieved from duties with Sec. Div. and will report to Com. Gen. Sec. Div. for duty.

Following officers, A.S., assigned to duty at station indicated, to take effect upon completion of tour of foreign Serv.: Capt. Earl H. De Ford, Middletown Air Int. Dep., First Lieut. Omer O. Niergarth to Fairfield Air. Int. Dep., First Lieut. Paul L. Williams, to Langley Field, First Lieut. Mark H. Redmond to Chanute Field, First Lieut. Harold W. Beaton to Langley Field, First Lieut. Clarence R. MacIver to Kelly Field, First Lieut. William M. Lanagan to Kelly Field, First Lieut. Delmar H. Dunton to Kelly Field, First Lieut. Guy Kirksey, to Off. Ch. A.S., Washington, First Lieut. George H. Beverley, to Brooks Field, First Lieut. Howard Z. Bogert, to McCook Field.

U. S. NAVAL AVIATION

Command of Aircraft Carriers

Rear Admiral Shoemaker, U.S.N., chief of the Naval Bureau of Navigation, made the following statement to the naval sub-committee of the House Appropriations Committee:

"I would like to say that I have established the policy, with the Chief of the Bureau of Aeronautics, of requiring that all officers, who are selected for the higher air commands of the fleet, before they are assigned, are to go to Pensacola, and take the course as observers, and graduate. We have recently sent officers to the fleet who have been to Pensacola and have qualified as observers. We do the same with regard to commands at the larger air stations. For instance, we have in the service, officers who have commanded airplane tenders or the carriers. Commanding officers, who are not air officers,

but who are experienced in command, may qualify as observers. To these ships (aircraft carriers), you must assign officers who know something of aviation, and who also have demonstrated, by their experience, capacity and fitness to take command of a $35,000,000 ship, 885 ft. long, steaming 35 knots p.h., and handle her properly, without wrecking her."

There are five captains who are about to take the naval aviation course at Pensecola. These are: Capt. George W. Steele, now in command of the Lakehurst Air Station; Capt. H. E. Yarnell, commanding the Aircraft Squadrons, Scouting Fleet; Capt. Thomas Craven, commanding the San Diego Air Station; Capt. A. W. Marshall, now on duty in operations; and Capt. Joseph M. Reeves, commanding the Aircraft Squadrons, Battle Fleet.

Naval Aviator for the General Board

The Navy Department is planning to carry out the Morrow Board suggestion that Naval aviators be assigned to the General Board and the Bureau of Operations. It is being found difficult, however, to secure the services of qualified officers who have sufficient rank to hold such positions, due to the shortage of flying officers in the rank of commanders. Admiral Moffett is mentioned as the logical man for the Board position, being head of the Bureau of Aeronautics.

Nonstop Flight to Hawaii

Plans for another attempt for a nonstop flight from the West coast to Hawaii are being worked out by the Bureau of Aeronautics for the early spring. Comdr. John Rodgers, U. S. N., who commanded the attempted flight last September, probably will again be in command. Whether he will be relieved permanently from his duties as Assistant Chief of the Bureau of Aeronautics, which it is understood he has requested, or just temporarily relieved for the flight duty, has not been definitely settled.

Should he quit his present post permanently, an interesting situation will arrive over the selection of his successor. Award of this position to one of the technical officers of the bureau is urged in some quarters, the argument being advanced that their technical training and knowledge would be invaluable to the chief of the bureau and to the department in the development of aviation. In some quarters, however, there is insistence on having a line officer in this position, and the problem, side-tracked by the selection of Commander Rodgers for the post, an acknowledgment of his work in the Hawaiian flight.

Navy Air Orders

Comdr. Warren G. Child det. U.S.S. Langley to Aircf. Sqdns., Battle Fleet.

Comdr. John H. Towers det. Aircf. Sqdns., Battle Flt., to U.S.S. Langley.

Lt. Comdr. Martin Griffin det. Com. VT Sqd. 2, Aircf. Sqdns., Battle Flt.

Lieut. (jg) James E. Baker det. Rec. Ship, San Francisco, to temp. duty, Nav. A. Sta., Pensacola.

Lieut. (jg) Harold R. Stevens det. Rec. Ship, San Francisco, to temp. duty Nav. A. Sta., Pensacola.

Ens. Steve V. Edwards det. Battleship, Div. 4, Battle Flt., to temp. duty Nav. A. Sta., Pensacola.

Ens. William A. Fly det. Rec. Ship, San Francisco, to temp. duty Nav. A. Sta., Pensacola.

Ens. Bromfield B. Nichol det. U.S.S. Mississippi to temp. duty Nav. A. Sta., Pensacola; orders Dec 15 revoked.

Ch. Pay Clk. Lewis R. Benson det. U.S.S. Nitro, to Nav. A. Sta., Lakehurst.

Pay Clk. Harry B. Brown det. Nav. A. Sta., Lakehurst, to U.S.S. Nitro.

Ens. Homer B. Hudson to continue duty Nav. A. Sta., Pensacola. Desp. Or. Dec. 14 revoked.

Lieut. Comdr. John F. Maloney det. Aircf. Sqdns., Battle Fleet, to Nav. A. Sta., Hampton Roads.

Ens. Gerald B. Ogle det. U.S.S. Concord to temp. duty Nav. A. Sta., Pensacola.

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PUBLISHER'S NEWS LETTER

Cy Caldwell "flew" into the office this week with something on his mind. His usually gay and cheerful manner was strangely serious. He grabbed a typewriter by the throat and shook it until it emitted a serious proposal. The machine expected that it would produce another humorous masterpiece and it was as surprised as everyone else to read the message that Cy wanted to send to all commercial pilots. His request for information, which appears below, should receive a reply from every pilot that reads AVIATION. The ideas of pilots have not been given the consideration they deserve. The reason for this is that they have no national organization. AVIATION has tried to watch for anything that might hamper the commercial operator and pilot. But it is difficult to express their points of view unless they are willing to give them. Read Cy's letter below and act on his suggestion.

* * * *

Those pilots who read the Publisher's News Letter in this paper last week were probably amazed at the elaborate machinery evolved for the regulation of aviation in England. As might be supposed, the effect of that regulation has been to strangle at birth practically all commercial aviation in England, except that of the air lines, which is not as yet, properly speaking, commercial aviation at all. The air lines are merely government experiments, managed by civilians.

Leaving them out of the commercial picture, therefore, we may examine what is left in England. And what remains is a pretty panorama of green fields and blue sky without a commercial airplane in it. There never were more than a few, and those few have been painted out by the gentlemen in control. To-day some English sportsmen own and fly planes for pleasure, but they are so hampered by senseless official regulations that they do so only under difficulties that we can hardly imagine.

Aerial Service, as we know it, does not exist in any country other than the United States, where it has grown up solely because it was unhampered by regulations. Sufficient proof of that statement lies in the fact that in countries having regulation, aerial service has died at birth.

These statements are in no way set forth as an argument against regulation, which is as certain to come as it is certain that the sun rises and sets. Every human activity is subject to some sort of governmental control. That American aviation has escaped this control so long, is merely its good fortune, and a fortune that cannot last. With the railroads, the steamships, and the motor vehicles, aviation will eventually be controlled and regulated. We commercial pilots may as well make up our minds to accept that as inevitable.

But we need not necessarily accept complacently, regulations as stupid and hampering as those foisted upon several foreign countries by well-meaning but air-ignorant people. And I hasten to add, lest I be misunderstood, that I offer no criticism of any impending legislation.

What is immediately in view is reasonable enough but there is no guarantee that there will not be additions and changes from time to time, some of which may completely hamstring us and if such is the case, we have no means of voicing our objections or putting up a defence. As pilots and operators of commercial airplanes we are going about our flying business with no thought of what some people who know little or nothing about us, are going to do to us. We are going to be regulated; and the operation may be painful. It will be especially painful and perhaps fatal, if the doctors know nothing of our ills, and hence operate in the wrong place, and with the wrong instruments. It will be small consolation to learn that the operation was successful, but that the patient died.

* * * *

And the death of commercial aviation may be expected if such drastic and stupid legislation as prevails in England, for example, is impressed upon us here. It is well to remember that the path of easiest travel for those seeking to secure regulation in this country, is to follow rules and regulations already in use in other countries. And if that path is followed without wide variation, the almost certain death of commercial aviation in America may be predicted without the shadow of a doubt.

Like the frogs in Aesop's fable, we pilots and operators have been asking for something to rule over us and regulate us. In the case of the frogs, the gods sent a stork to rule them, which worked very well, except that the stork finally ate up all the frogs. Let us take steps to assure ourselves that we will not be devoured.

How can we do that? I ask each and every one of you pilots and operators who read this letter, to write to me, in care of AVIATION, giving your views on the matter. In that way, we may be able to arrive at some concensus of opinion of the men who will be most vitally affected by air legislation; the men whose bread and meat depends upon their ability to fly commercially without too many hampering restrictions.

What can we do? We have no association or organized body to speak for us. In fact, do we know what we want? And what is more important, what we don't want? As pilots and operators, the men to be helped or hindered by rules, shall we form an association of our own to voice our opinions,—if we have any,—or shall we join some other organization, endeavoring to retain our identity as pilots and operators?

Every pilot should jump at the chance to express his views. If you will write me, AVIATION will put your opinions where they will do the most good. This, in effect, is a test vote. It may have a very definite effect on your future. So, all I can do is to ask you again to write giving your best suggestions.

Yours for the pilots' interest,

Cy

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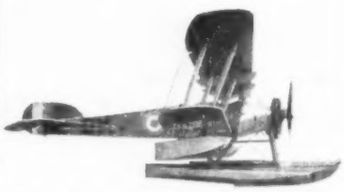

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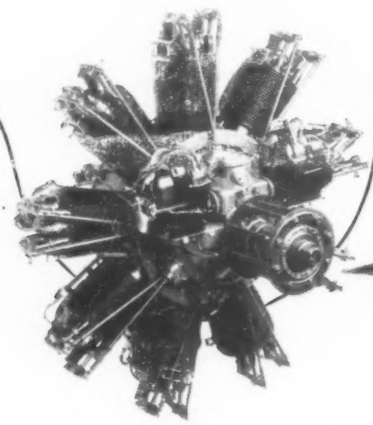

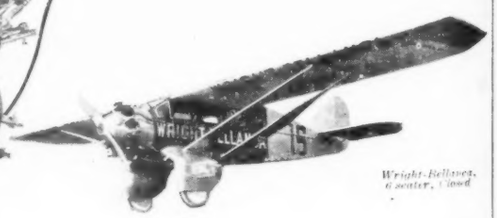

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